THE BUILDER

INCORPORATING

"ARCHITECTURE" AND "THE BRITISH ARCHITECT"

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THE HERBERT OF THE
DEC 20 1943
UNIVERSITY OF ILLINOIS

IS THERE A BUILDING POLICY?

TWO misconceptions with regard to Government building policy have recently arisen, both out of the Ministry of Health's decision to allow local authorities to carry out or approve repairs to houses and flats to a value of £250 and £200 per property respectively. It appears to have been widely assumed (1) that anybody is now at liberty to spend these sums of money on such building work, and (2) that a new large pool of labour has been made available to carry it out. Both assumptions are entirely wrong. The limit of annual expenditure on private property has not been raised; it is still £100, and anyone wishing to spend more must obtain a licence. Only if a local authority certifies such work as "essential"—that is, desirable in present circumstances—is a licence likely to be granted. (Further reference to the scheme will be found on page 398.)

No new labour is available for this work; it still has to be done by what is called "garrison," or immobile, labour. In effect, no additional work on the repair of houses is being done under the M.O.H. scheme—only the emphasis is changed; that is to say, the local authorities are charged with the duty of seeing that "garrison" labour is used to best advantage from the point of view of providing badly needed housing accommodation. We understand that the Ministry of Labour, so far from making new labour available for repairs and maintenance, has only agreed not to take labour from this work for other purposes until other sources have been exhausted.

The misconceptions to which we have referred may have had their use if only to draw attention to the question of the future of the building industry. The Government's building programme is rapidly approaching completion. What is to happen when it comes to an end? The leaders of the industry, notably Mr. Leslie Wallis and Mr. H. C. Harland, have lost no opportunity of urging upon the Government the need for having a programme of building work ready for labour to be transferred to as it is released from other work, in order that the industry may retain its organisation in being ready for the great post-war expansion which is expected of it and which it must be prepared to meet. There is no sign, at the moment, of any such building programme. It had been confidently hoped that the need would be supplied by the adoption of a bold policy of maintenance and repairs, but that hope has been disappointed.

What is to happen to mobile building labour as it becomes free? Is it to be further and further depleted by calls from the munitions industries and the Forces? If such a course is essential for the prosecution of the war, the industry will and must resign itself to the inevitable. But great care must be taken to make sure that it is essential.

The aim of the Government, no doubt, is a balanced allocation of the nation's man and woman power for the war effort. It would be interesting to know whether any attempt has been made to calculate how adversely the war effort may be affected by bad housing accommodation.

Great numbers of people to-day are existing (it can scarcely be called living) under conditions that in peace time would be regarded as intolerable. Overcrowding is rife. Thousands of houses are uninhabitable because of war damage, and great numbers are falling into a state of ruin for want of a few repairs. Dry rot alone, as Dr. Findlay, of the Department of Scientific and Industrial Research, showed in a recent article in *The Builder*, has become an acute problem. The consequences of this neglect are incalculable. If a bold policy of repair were adopted, even now, many properties could be saved and much additional housing accommodation made available for war workers who stand in such urgent need of it. If this were done, the effect on the war effort could not be anything but beneficial. We wonder whether this aspect of the question has received the consideration it deserves.

Nor is the problem of maintenance and repairs confined to housing. Farm buildings and estate equipment are equally affected. The Council of Agriculture for England has recently informed the Minister of Agriculture that "It is impossible not to feel grave concern at the deterioration of the capital equipment of farms, whether it be in the ownership of owner-occupiers, large estates, corporations such as colleges, or even of the nation itself. The deterioration has been going on for at least a decade, but has been accelerated since the outbreak of war."

The L.M.B.A., as we announce elsewhere this week, has asked Mr. Bevin, Minister of Labour, to receive a deputation on the future use of building labour. It may be recalled that in his message to the L.M.B.A., read at the luncheon to the Lord Mayor a fortnight ago, Mr. Bevin said: "The building industry is destined to make one of the most vital contributions to post-war development in providing accommodation and assisting resettlement. It is my sincere hope that the industry will rise to its opportunity and will regard itself as a national service, not operating merely for profit but using its ability and organisation to give our people good healthy residences at reasonable cost and so help to rid us of the blot of mean streets and bad housing conditions once and for all."

If it is to begin this work quickly after the war ends, the building industry maintains that it must be left with at least the nucleus of skilled men it still has. If this were withdrawn there would inevitably be a delay—it might be a serious delay—in re-absorbing men from the Forces and from the munitions industries after the war, a delay which might even postpone speedy demobilisation. Repair and maintenance work could keep this nucleus fully employed, probably till the end of the war. The course is clear. Will the Government follow it? Upon the answer to this question depends not only the maintenance of efficiency in the war effort, but the speed of national recovery after the war.

NOTES AND NEWS

The Mission to America.

SIR GEORGE BURT and MR. FRANK WOLSTENCROFT, two members of the Mission sent to America by the Minister of Works to study new building methods, are now back in this country.

Sir George Burt, who represented the practical side of the building and civil engineering industries and is chairman of the Building Research Board and chairman of the Inter-Departmental Committee on House Construction, will start at once in drafting the report to the Minister. Until this is done no statement can be made by Sir George Burt or Mr. Wolstencroft on the work of the Mission.

Mr. Wolstencroft, who is General Secretary of the Amalgamated Society of Wood Workers and Vice-Chairman of the British T.U.C., is expected to contribute valuable comments from the operatives' point of view. The other members of the Mission are expected back shortly.

Baronetcy for Sir Samuel Joseph.

IT was announced at 10, Downing-street, on November 5 that the King had approved that the dignity of a baronetcy of the United Kingdom be conferred upon Sir Samuel Joseph, upon the occasion of his retirement from the office of Lord Mayor of London. He is a Fellow of the Institute of Builders and a member of the London Master Builders' Association. We extend our hearty congratulations to Sir Samuel on this new distinction, in which we know we shall have the full support of the building industry.

Building Costs and Quantity Surveyors.

A MEETING of members of the Chartered Surveyors' Institution qualified as quantity surveyors will be held at the Institution of Mechanical Engineers, Storey's-gate, S.W.1, on November 17 next, at 5.30 p.m., when Mr. H. W. Langdon (a Member of the Council and of the Quantity Surveyors' Committee of the Institution) will inaugurate a discussion on "Building Costs, with special reference to the incidence of the Essential Work Order, the Uniformity Agreement, and basic cost of labour and materials."

The Art Workers' Master.

MR. W. H. ANSELL, M.C., late President of the R.I.B.A., is to be the next Master of the Art Workers' Guild. He follows another architect-Master, Professor A. E. Richardson, A.R.A.

Club Boys and the L.C.C. Plan.

LONDON boys' club members engaged in a training course organised by the London Federation of Boys' Clubs recently heard Mr. David Percival, A.R.I.B.A., President of the Association of Building Technicians, explain the L.C.C. Plan for the County of London. Mr. Percival outlined the scheme and some of its implications, and answered a large number of questions put by the boys. One of these questions was: "Can all the local authorities concerned with this scheme come to an agreement?" Another boy was interested to know what the effect of shortage of labour and materials would be on the design of houses. Was it democratic to permit large expensive houses to be built if it meant a corresponding diminution in the output and standard of equipment of small houses? To the first question Mr. Percival answered, "I don't know," and to the second he replied that he thought there might well be a restriction placed upon the large house, and, at the same time, an increase permitted in the floor area of the working-class dwelling design, together with improved equipment.

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Mr. Percival's lucid explanation of the plan and his frank answers to the boys' questions were greatly to his audience's liking.

Forthcoming L.M.B.A. Deputation to Mr. Bevin.

THE London Master Builders' Association, through the Ministry of Works, have asked Mr. Ernest Bevin, Minister of Labour and National Service, to receive a deputation on the need for retaining key-men in the industry when the present Government programme comes to an end, in order that there may be no delay in getting on with reconstruction work immediately after the end of the war.

V.C. for Architectural Student.

THE award of the Victoria Cross has been made posthumously to Acting Flight Sergeant Arthur Louis Aaron, D.F.M., R.A.F.V.R. The action for which the award was made was a night raid on Turin on August 12, and the citation states: "In appalling conditions he showed the greatest qualities of courage, determination and leadership, and, though wounded and dying, he set an example of devotion to duty which has seldom been equalled and never surpassed." Flight Sergeant Aaron, who was 21, was a second-year Diploma student at the Leeds School of Architecture.

The Gas Industry Report.

THE Gas Industry has submitted a report to the Minister of Fuel and Power on "The Planning of the Gas Industry," which clearly indicates its future plans for organisation and structure to be on evolutionary lines, rather than resorting to the revolutionary experiment of national control. Two years' research has gone into the drafting of this Report, including a factual survey of the industry, which was submitted to the Minister some weeks ago. This confidential survey formed a valuable basis for the post-war plans put forward in the report, and it is significant that the submission of this Report has received the support of the whole industry. It does not represent merely the findings of a group of experts, but has been circulated, discussed and amended in the light of comments from all sections of the industry. Confidence is expressed in the Report that the contribution it will be able to make to the rebuilding of Britain's homes and industries after the war is one of vital importance. The chief recommendations of the Report include:—

The formation of a British Gas Association to supersede various other national gas bodies now in existence and to assume their functions. Its Central Council will act as a "Parliament" for the Industry.

Methods of integration of undertakings throughout the country to provide a better service to the community after the war and to hasten the extension of gas into rural areas.

Furthermore, it puts forward a suggestion that the Ministry of Fuel and Power should appoint a National Fuel Advisory Council to facilitate the elimination of wasteful competition between the fuel industries, and to reinforce the spirit of constructive co-operation both in the interest of the national economy and of service to the individual fuel user.

Address to L.M.B.A. Council.

MR. HAROLD BEDALE, O.B.E., Town Clerk of Hornsey, is to address the Council of the London Master Builders' Association on Thursday, November 18. Mr. Bedale gave evidence on behalf of the Non-County Boroughs Association before the Scott and Uthwatt Committees.

Rebuilding of St. Andrew's-by-the-Wardrobe.

PLANS prepared by Sir Banister Fletcher, P.P.R.I.B.A., for the rebuilding of St. Andrew's includes the provision of a hall to seat 300 people underneath the church.

Appointments.

MR. HUBERT BENNETT, F.R.I.B.A., has been appointed as Replanning Officer by Southampton Corporation. There were 74 applications. Mr. Bennett has been released from his military duties (he has been a Captain in the Northern Command) to undertake the work. In December last he won the Ilkley planning competition.

MR. J. M. HENDERSON, Town Planning Officer, Rutherglen, has been appointed County Architect of Caithness.

MR. J. RAWORTH HILL, F.R.I.B.A., has taken up the post of architectural adviser to the Copper Development Association, of Grand Buildings, Trafalgar-square, W.C.2.

From *The Builder* of 1843

Saturday, November 11, 1843. *Price* 3*d*.

THE BRITISH MUSEUM.—Sir Robert Smirke's conduct in this business leaves him with scarcely anyone to defend him; like so many indiscreet and perverse persons he imposes too much upon his friends and involves them in backing and apologies which a little proper consideration on his part would most agreeably spare them from. . . . Truly, if we are to view the Plan before us with a print of the elevation now publishing in the shops as pretty correct expositions of what Sir Robert Smirke is about to give us . . . we must turn our backs upon him, and say we can keep his company no further. . . . Oh, such botching and patching! We have no words for it.

*** Even in those days of outspoken criticism, the article from which these extracts are taken was too strong meat, and a fortnight later (November 25, 1843) we find an editorial reference to the fact that "in looking over the papers referring to the Museum, we find much to strengthen our first feelings of respect for Sir Robert's talents. The plan is very fine; the elevation is just 'a missing of the mark.' All the elements of a good composition are there but spoilt in the compounding." It is not known if this subsequent reference succeeded in appeasing the architect's obviously ruffled feelings.

CORRESPONDENCE

[Whilst we are glad to publish letters on professional and other matters of interest to our readers, it must be understood that we do not necessarily endorse the remarks of correspondents, who will oblige us if they will express their views as briefly as possible.]

War Damage Repair; An Anomaly.

To the Editor of *The Builder*.

Sir,—It has recently come to my notice that the War Damage Commission, by the aid of its assessors, is attempting to justify "proper cost" for work of reinstatement of damage on a measure-and-value basis that, in the normal way, would, without question, be classified "daywork" and paid for under the National Schedule of Daywork Charges.

I am a quantity surveyor of many years' experience and have had through my hands a great number of claims, all of which have been satisfactorily agreed and the greater number settled upon a proper basis. It is perfectly obvious that no more fitting person than the quantity surveyor can be found to discriminate properly building works and repairs of various natures, and I challenge the War Damage Commission to prove that a great proportion of reinstatement of damage can be properly valued and assessed on a basis of measure and value. Yet this is invariably done, and if not properly contested usually terminates with a loss to the claimant or his builder.

No assessor, qualified or otherwise, is in a position to run the "five-footer" over various patches of work in different places and retain the somewhat unreasonable and conceited opinion that he is able to put a proper price to the respective items. How does he, when dealing with work in this way, cater for the loss of output due to labour conditions which are beyond the control of the builder. If he imagines all men produce the same amount of work per hour or per day, then he imagines men are machines; if he fails to reach this conclusion by a wide stretch of imagination, then he is bound to submit to the actual time and material used upon the work, to which, of course, must be added a proper percentage for overheads and profit.

It will be found that the Commission endeavour to establish a percentage of profit on cost irrespective of the contractor's establishment charges. In other words, hypothetically speaking a builder would receive the same percentage on cost whether his turnover was £50,000 per annum or £5,000, but it apparently has not yet appealed to the Commission that the builder with the lesser turnover may, in fact, get a lesser profit because he has to deduct a greater part of his gross percentage for establishment charges. I suppose this is considered equitable. This method, latterly more prevalent, of attempting to justify "Proper Cost" for work of daywork nature on a measured basis must stop, and the Commission must not allow its views to dominate in this respect where they are clearly unjust and most unfair to the claimant and his builder.

Incidentally, what on earth is the use of certificate C2A being signed by professional men of standing if it is merely ignored and subjected to the efforts of some other person who may or may not be equally conversant with the matter?

I am only too well aware of the value of measured basis in normal times for appropriate work, but even this to-day cannot be properly estimated, and this is further borne out by the absence of quantities and the introduction of schedules or time and material.

Wm. B. Moore,
A.I.A.S., A.I.Struct.E.

47, Lincoln's Inn Fields, W.C.2.

War Damage Claims.

To the Editor of *The Builder*.

Sir,—The following may be of interest:—

September, 1941.—Claim made.

March, 1942.—War Damage Commission offered to settle claim for just over half the amount claimed. Refused.

October, 1943.—Full amount of claim settled.

A very considerable amount of correspondence was involved for a period of over two years. Owners would be well advised not to accept offers made by the W.D.C. until a full investigation of the claim has been made. Incidentally, builders pay wages weekly and merchants' accounts monthly.

Sydney A. Naylor.

London, W.1.

Repair of War Damaged Properties.

To the Editor of *The Builder*.

Sir,—The recent Government pronouncement on the repair of war-damaged properties has probably caused a number of property owners to imagine that they will now be able to put into repair properties which have for the last three years been unoccupied owing to the effects of enemy action. This assumption is, however, somewhat erroneous, as the Government have not indicated how it is proposed that the money to pay for these repairs is to be obtained; therefore, to implement their proposals, a direction should be given to the War Damage Commission to expedite settlement of costs of works payments under Part I of the War Damage Act, 1943.

The procedure now obtaining with regard to an owner carrying out the work is as follows:—

1. An architect must be instructed to prepare a priced specification in order to obtain a building licence, and this usually involves a preliminary refusal by the Ministry to issue a licence, in which case a revised specification has to be prepared, leaving out some of the work; the Ministry may then consider issuing a licence, probably for a smaller amount than the estimated cost.

2. On obtaining a building licence, the owner must then find a builder who is prepared to carry out the work and, unless the client can finance the scheme, wait for payment of his account until such time as the War Damage Commission agree the "Proper Cost."

3. When the works are completed, the builder has to prepare a detailed account; this is checked by the architect and certified as correct and reasonable, and then submitted to the War Damage Commission, with a claim for reimbursement. A period of from two to ten months must elapse to allow time for proper consideration being given to the claim, if the amount is over £50. Where the amount of the claim is less than £50 the Commission have been known to settle within one month, apparently without inspecting the property.

From the foregoing it will be readily appreciated that the small property owner, who owing to the war is probably suffering considerable financial embarrassment, has no real opportunity to carry out repairs to his property, and must therefore rely on the local council, who are quite incapable of dealing with the situation. In order to assist such cases, I would suggest that the Government should direct the War Damage Commission to pay up to 80 per cent. of the value of the work executed on certificates to be issued by the architect, thus following the normal pre-war practice.

One other point also arises in regard to dealing with the War Damage Commission, and this is the extreme difficulty which exists in obtaining their agreement as to the extent of the war damage before the repairs are carried out. The Commission claim that they are not bound to agree the extent of the damage until a claim has been submitted. A claim cannot be formulated until the damage is repaired, and therefore all direct evidence of the extent of the damage is destroyed. The onus of proof rests with the claimant, who is therefore placed in a very difficult position.

R. T. Akers.

Hampstead, N.W.3.

COMING EVENTS

Friday, November 12.

Association of Constructional Floor Specialists. Exhibition of concrete and other types of floor, 84, Regent-street, W.1. Opening by Mr. George Hicks, M.P. 3 p.m. (open until November 26, 10 a.m. to 5 p.m.).

Association of Building Technicians. 2nd lecture in "School of Building Technique," by Dr. E. G. West, on "Aluminium and Light Alloys." Alliance Hall, Palmer-street, S.W.1. 6.30 p.m.

Saturday, November 13.

Town and Country Planning Association. Conference at York. Speakers: The Archbishop of York and Major C. W. C. Needham.

Wednesday, November 17.

Chartered Surveyors' Institution. Quantity Surveyors' Meeting. Mr. H. W. Langdon on "Building Costs." At Institution of Mechanical Engineers, Storey's-gate, S.W. 5.30 p.m.

Thursday, November 18.

A.A. School of Architecture. Informal Meeting on "Architectural Education." 36, Bedford-square, W.C. 6 p.m.

English Joinery Manufacturers' Association. Resumed General Meeting. At Piccadilly Hotel, W.1, followed by Luncheon at Oddenino's Restaurant, and talk by Mr. F. MacManus, A.R.I.B.A.

Friday, November 19.

Town and Country Planning Association. (City of London Meeting.) Mr. H. Alker Tripp on "Town Planning and Road Traffic Problems." Abercorn Rooms, E.C.2. 12.30 p.m.

Saturday, November 20.

Institute of Registered Architects. Mr. W. O. Hudson on "The Architects' Registration Acts, 1931-38." 29, Lincoln's Inn-fields, W.C.2. 2.15 p.m.

Association of Building Technicians (Liverpool Branch). Film show and talk by Mr. Colin Penn, 1, Basnett-street, Liverpool. 3 p.m.

TOWN PLANNING MEMORANDA

The Ministry of Town and Country Planning has recently issued three Circulars.

Circular 4 draws attention to the Land Charges Act, 1925, whereby every resolution to prepare a town-planning scheme which has taken effect is required to be entered in the local Land Charges Register. Amendment rules are now in draft, states the Ministry, and are set out in the Circular which has been sent to authorities interested.

Circular 5 (H.M.S.O., price 2d. net) describes the survey and other work essential for the proper exercise of planning control during the war period under the Acts of 1932 and 1943. The amount of planning work which can at present be done (states the Circular) must depend upon the staff available, but it is suggested that at least outline plans should be made, especially for such development as may be expected to take place within the first few years after the war. War-damaged areas present special problems which will be dealt with in a later memorandum.

The provision of technical staff is referred to in Circular 6 (H.M.S.O., price 1d. net), and alternatives suggested are: (i) the appointment of a planning officer; (ii) the appointment of a planning consultant; (iii) the part-time use of a planning officer lent by a neighbouring authority; and (iv) temporary surveillance by a group of technical officers.

LEEDS CIVIC CENTRE

PLAN FOR FUTURE DEVELOPMENT

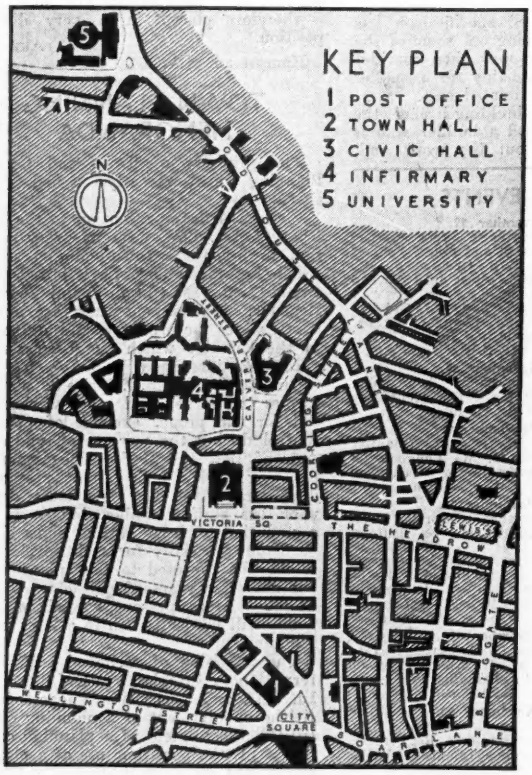
PREPARED BY
COL. W. S. CAMERON, M.Inst.C.E.,
P.P.T.P.I., CITY ENGINEER.

VIEW OF TOWN HALL FROM VICTORIA SQUARE.

A PLAN HAS BEEN PREPARED BY LEEDS CITY Engineer, Col. W. S. Cameron, M.Inst.C.E., P.P.T.P.I., for the Improvements Committee, as a suggestion for the setting aside of a certain area for civic purposes and an improved approach to it. The scheme has been approved in principle by both the main parties in the City Council.

The plan is not intended to be in any way a final or a detail plan, and, if finally accepted in its present form or subject to modification by the City Council, it would form the master plan for future development during the next fifty years.

The area suggested to be set aside for the civic centre is approximately 60 acres in extent, and lies immediately to the north-west of the central shopping and business area, being separated from it by The Headrow, an 80-ft. wide new street, which has been carried out for a length of about half a mile to the east of the Town Hall, and will be completed after the war for a similar distance to the west, by-passing east and west traffic from the central business area.



PLAN OF LEEDS CITY CENTRE AS EXISTING.

The site shown immediately east of the Town Hall is for a new Art Gallery, Central Library and Museum, one for which provisional plans were prepared before the war. This site is shown by the photograph. The existing buildings would be demolished, and the new one erected behind the Rest Garden shown in the photograph. It is suggested that the site immediately to the west of the Town Hall might be used for a building of a similar type for other civic purposes. This would enable a similar rest garden to be provided in front of this building.

The scheme also provides for the removal of a block of old property lying between the Infirmary and the Town Hall, which will permit of the straightening and widening of the street lying between these two buildings, and the laying out of the gardens. It provides also for the demolition of property between the Civic Hall and Cookridge-street, and the construction of gardens on the site of the demolished buildings, between the Civic Hall and the new Technical College.

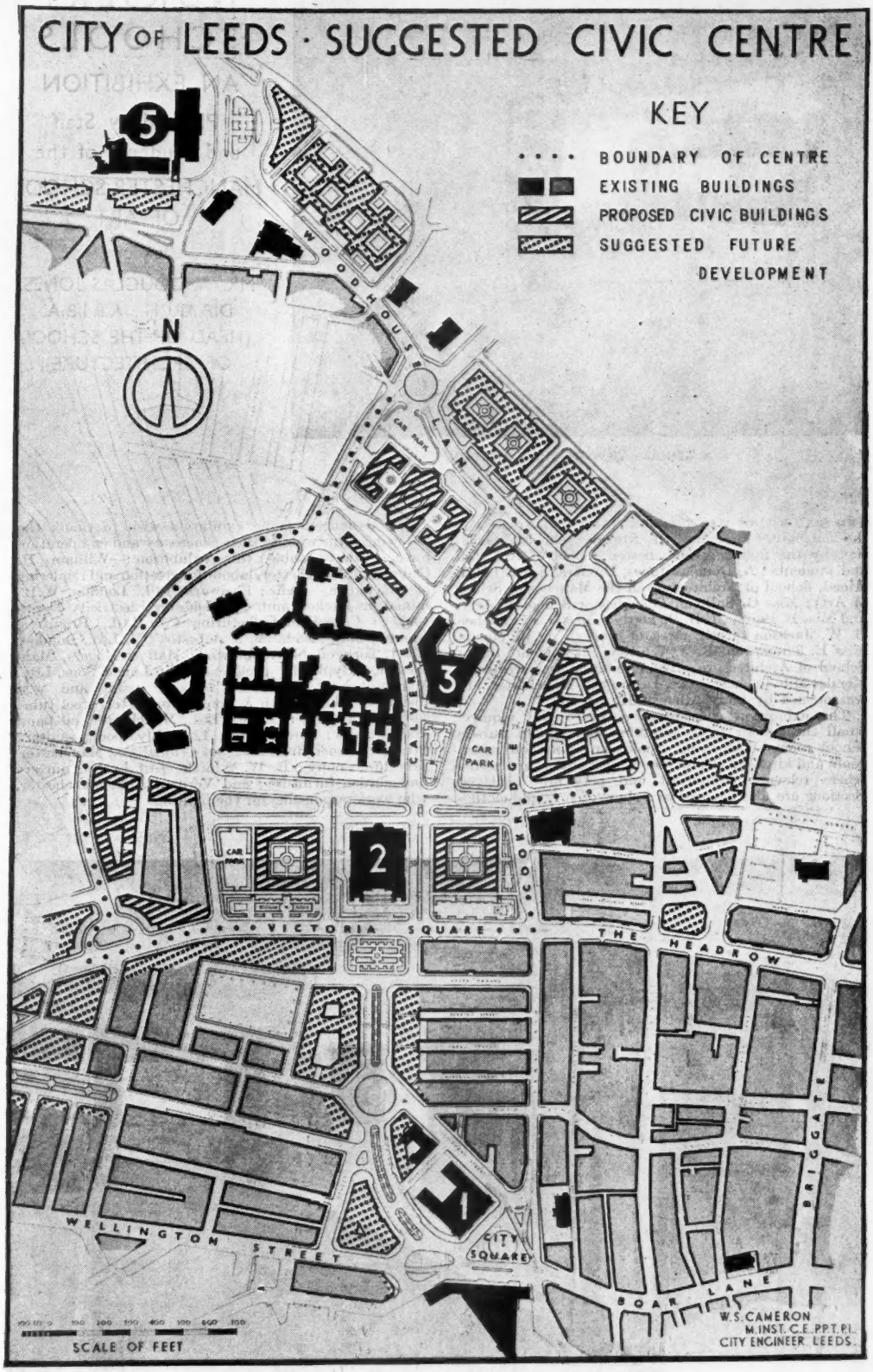
The second part of the plan envisages an entirely new approach to the civic centre from City Square and the City Station by the construction of a processional way, 120 ft. in width, axial with the Town Hall.

The new approach would widen out in front of the Town Hall, giving an extended view of the Town Hall and its two flanking civic buildings. It would also provide for a large open space which might take the form of a rest garden, spaciously laid out, and which could, if required, be used for the provision of an underground car park. Three other large car parking spaces are provided.

The building shown to the east of Cookridge-street is a proposed Technical College to house all the various Technical Schools, College of Art and School of Architecture, plans for which have already been prepared.

A good deal of the land within the boundary of the proposed civic centre, other than the Infirmary, is already owned by the Council.

The sites shown as allocated for other buildings are provisional only, and do not represent any specific buildings, except the one to the north of the Civic Hall, which is suggested as a site for an extension of the municipal administrative block.



COL. W. S. CAMERON, M.Inst.C.E., P.P.T.P.I., CITY ENGINEER.

A GENERAL VIEW OF THE EXHIBITION.

NURSERY SCHOOLS

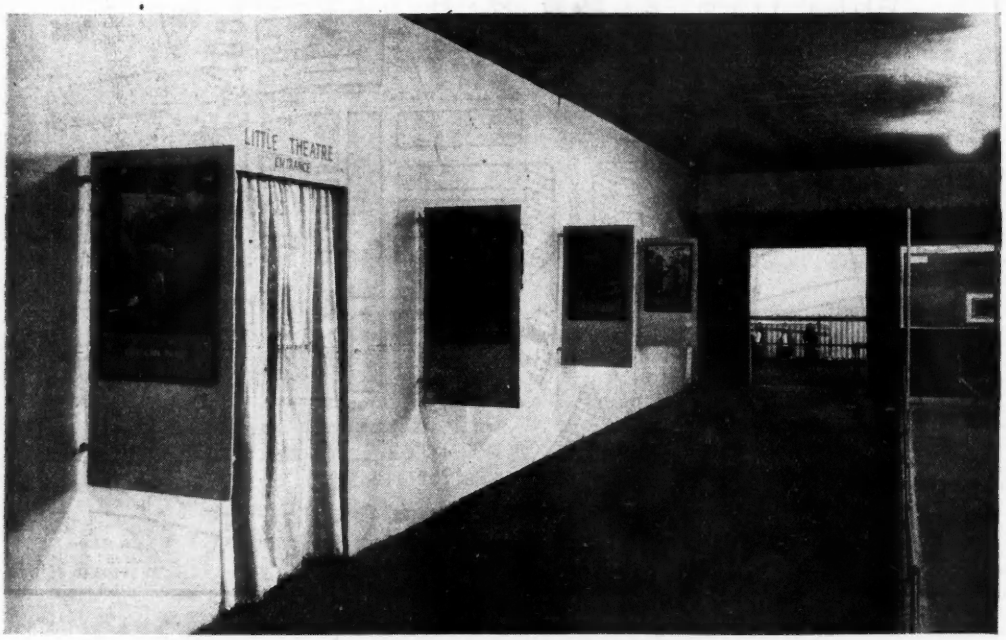
AN EXHIBITION

Planned by Staff and Students of the MANCHESTER SCHOOL OF ART under MR. A. DOUGLAS JONES, DIP.ARCH., A.R.I.B.A. (HEAD OF THE SCHOOL OF ARCHITECTURE).

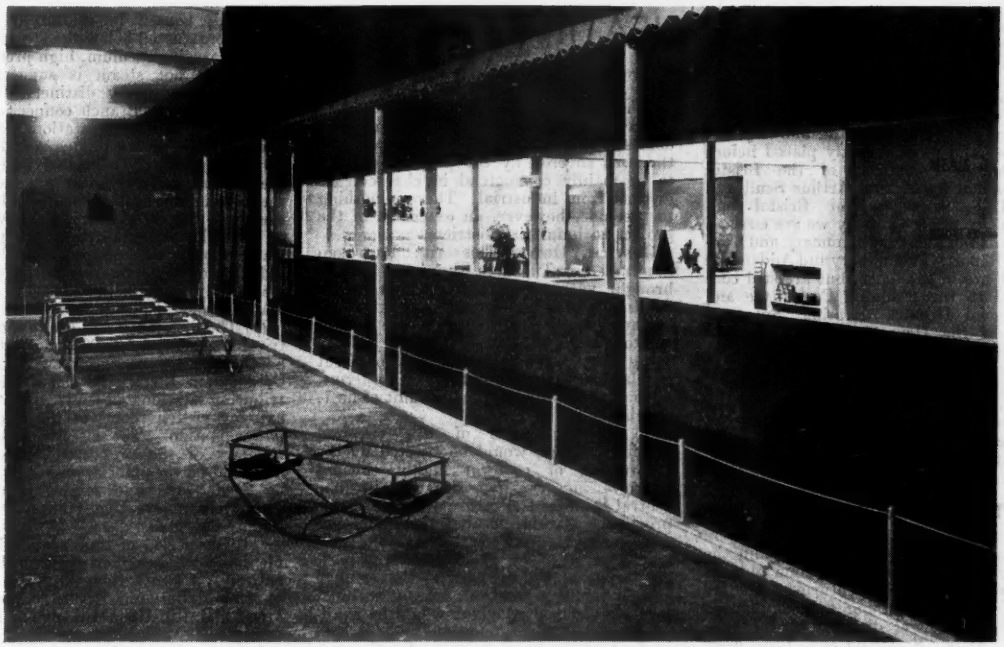
THIS EXHIBITION WAS DESIGNED AND ORGANISED FOR the Manchester Branch of the Nursery Schools Association by the following Manchester School of Art staff and students : A. Douglas Jones, Dip.Arch., A.R.I.B.A. (Head, School of Architecture in the Manchester School of Art) ; Miss O. Sullivan (Manchester School of Art) ; and Miss B. Bailey, J. B. Bickerdike, Miss D. M. Fletcher, B. W. Jackson (acting clerk of works), A. W. Morris, Miss E. Thompson, R. J. Whitley, all students of the School of Architecture. The exhibition was erected in Kendal Milne's showrooms, Deansgate, Manchester, and was opened by Lady Allen of Hurtwood.

The exhibition consists of entrance and inquiry ; small theatre for talks and film shows ; and nursery school rooms comprising cloakroom, playroom washroom and kitchen. These rooms open out on to a garden where relevant equipment and pets are displayed. Sections are also devoted to a show of toys and clothes.

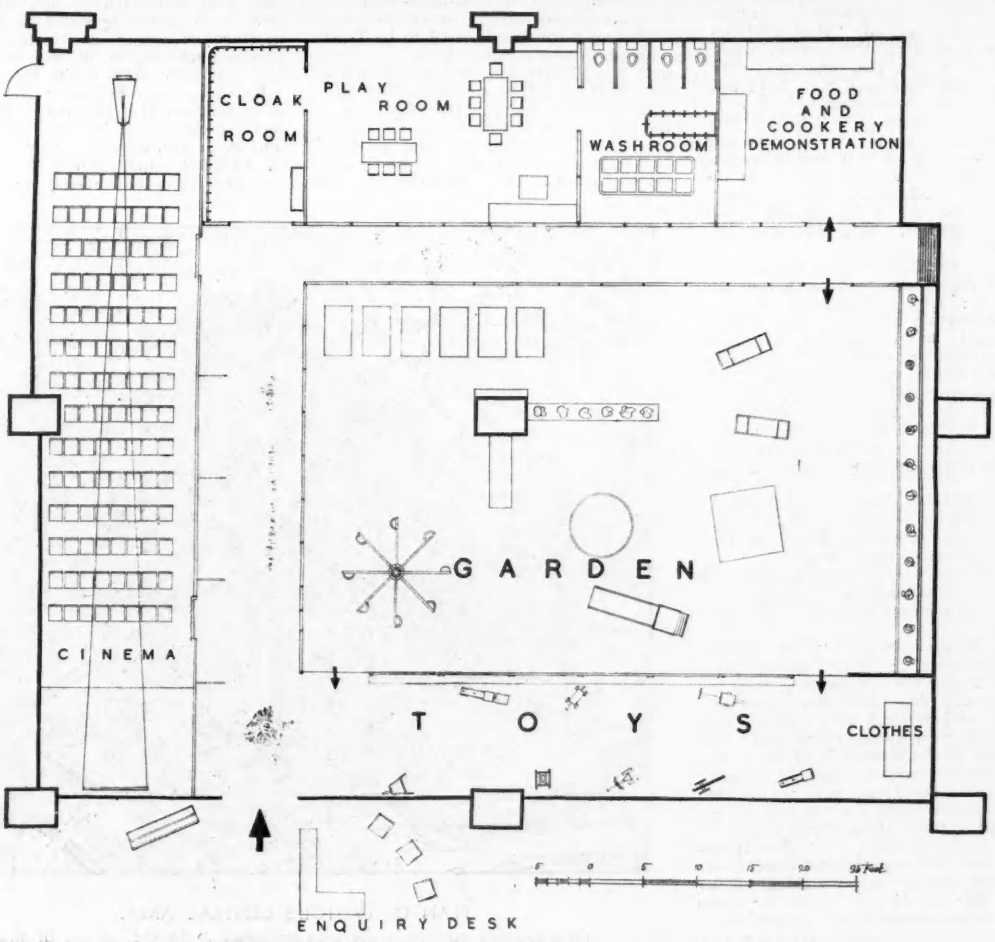
The designers of the exhibition wish to thank the following firms who by their generosity and co-operation have made possible this exhibition :—William H. Cadman, of Manchester, labour for erection and rendering of " Gypklith " walls ; Easiwork, Ltd., London, W.12, miniature kitchen units ; Manchester Electricity Dept., cooker ; Crittall Manufacturing Co., Ltd., Braintree, frames ; Cork Insulation & Asbestos Co., Ltd., London, E.C.1, cork on playroom wall ; Hall & Rogers, Manchester, " Gypklith " products ; John Line & Sons, Ltd., Manchester, " Marb-l-cote " plastic paint and W.T. distemper ; Longworth & Sons, Manchester, steel tubes for screen ; Manders Paints, Ltd., Manchester, oil paint and primers ; Rowe Bros., Ltd., Liverpool, sanitary fittings ; Turner Bros. Asbestos Cement Co., Manchester, asbestos canopy ; R. W. Whittle, Ltd., Eccles, nursery and garden furniture ; and Veritys, Ltd., Manchester, who were responsible for the lighting.



VIEW SHOWING EXTERIOR OF LITTLE THEATRE.



VIEW LOOKING TOWARDS THE PLAYROOM. *Below*: PLAN.



NURSERY SCHOOLS: A MANCHESTER EXHIBITION.

DISTRICT HEATING

THE BRISTOL SCHEME.

A SCHEME for "Heat Distribution Service" was submitted to a conference of technical officers in Bristol in January and July last and more recently placed before the Planning Committee of the Bristol City Council by Messrs. Arthur Scull and Son, Ltd., engineers, of Bristol and London, by whose courtesy we are enabled to reprint the following Summary and Conclusion Report. Preliminary and Addendum Reports are in existence, but are still confidential to the Planning Committee and the special District Heating Sub-committee of the Department of Industrial and Scientific Research. We understand that although the Report now printed has been submitted to the Planning Committee they have made no recommendation to the City Council at this stage, as before doing so they wish to await the findings and conclusions of the Special D.S.I.R. Sub-committee.

THE ENGINEERS' REPORT.

CONCEPTION: In August, 1941, when in consequence of the destruction within the city by enemy action, it became obvious that an opportunity of centuries presented itself for the replanning and reconstruction of the central districts of the city, Messrs. Arthur Scull and Son, Ltd., drew the attention of the Planning and Public Works Committee to the progress which had been made in domestic heating during the last decade, particularly with regard to the development of "Heat Distribution" as a public utility service, similar to that of water, gas, and electricity. Messrs. Arthur Scull and Son, Ltd., intimated that they were prepared to investigate the application of a "Heat Distributing Service" for the central district of the city, with regard to its suitability and economy and to submit a report on the subject, free of all cost to the city, for consideration by the Planning and Public Works Committee. This offer was duly accepted.

SCOPE OF THE REPORT: The scope of the proposed report was to cover a complete survey of: 1. (*a*) The whole field of domestic heating and hot water supply, as applied to commercial buildings, large community dwellings and institutions. (*b*) The provision of bulk heat from a central source and its distribution to the central district of the City of Bristol;

2. The financial and economic aspects of such a project as outlined under 1 (*b*);

3. The public amenity value of such a project;

4. The probable effects of such a project if developed in relation to other utility undertakings, providing direct or convertible sources of heat energy;

5. The administration and management of such a project and the necessary statutory powers required to operate the undertaking.

BRIEF DESCRIPTION OF A "HEAT DISTRIBUTING SERVICE": Almost within living memory there were certain districts of the city that were dependent solely upon community and individual wells for their cold water supply for domestic purposes. The enterprise of the Bristol Waterworks Co. subsequently provided the whole city with an adequate supply of pure water from concentrated sources, *i.e.*, reservoirs, *via* distributing pipes through the streets to each and every property. A "Heat Distributing Service" visualises a parallel service, abandoning the individual boiler house, but providing hot water or steam generated at a concentrated central point, for distribution through service pipes to each and every building, for industrial process, domestic heating and hot water supply usage—termed "Town Heating." The report, however, deals in the main with the supply of bulk heat energy for domestic heating and hot water supply, as the area covered by the project is likely to be mainly commercial in character as distinct from industrial. There is nothing to preclude, however, an extension of the project to industrial districts.

GENERAL OUTLINE OF THE PROPOSED SCHEME: (*a*) The area suggested to be brought within the scope of the "town heating" scheme covers approximately 345 acres of the central part of the City of Bristol, marked on the attached plan.

(*b*) The estimated quantity of heat required for this area is 12,000,000 therms, annually (a therm, a standard unit of heat, equals 100,000 B.T.U.s).

(*c*) The generation of this required quantity of heat would be effected by the combustion of coal in highly efficient steam-raising boilers, situated in one central combined electric power and heat-producing station, located for preference adjacent to the city's waterways and railway system to facilitate coal transport, etc. The steam raised in the central station would generate in passout turbines primary electricity, which would be available for general consumption, and the heat content of the passout steam for the turbines would be used for the heat distribution service.

(*d*) The anticipated consumption of coal in the combined electric power and heat producing plant is estimated to be 77,500 tons per year; a figure to be compared with the 100,000 tons of coal which it is calculated would be consumed by individual heating units in the same area in the same period of time.

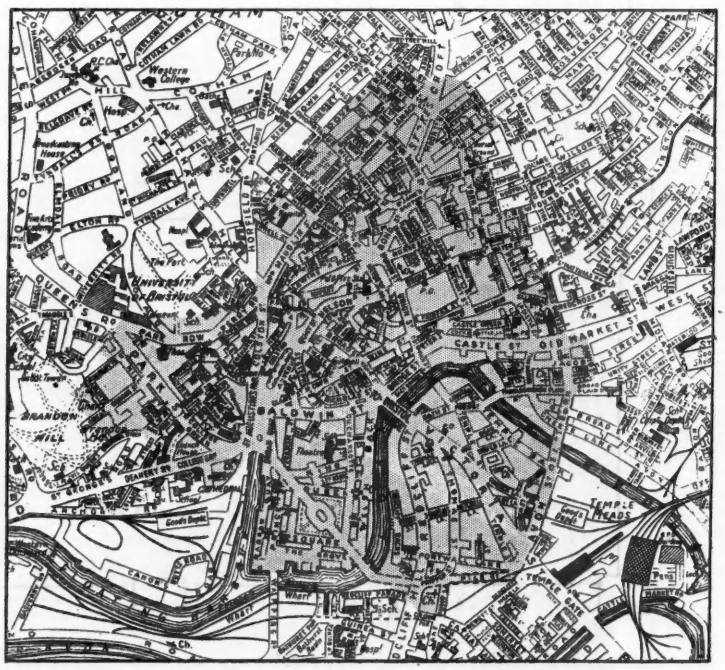
(*e*) The distribution of the produced heat energy to the user would be through tubes of welded steel construction, suitably insulated, housed in reinforced concrete ducts, constructed below the street surface. As the carrying medium, high pressure hot water and not steam is suggested, the former having many distinct advantages over the latter. Branch connections from the trunk mains to sub-stations, located to control a group or groups of buildings would be made. Individual buildings or users would have their supply metered to them from the sub-station, utilising the energy in the various already known forms of central heating, air conditioning, hot water supply, etc., according to their individual requirements, dispensing with the local individual boiler house, with its many attendant disadvantages.

(*f*) The distribution of the proposed electrical energy, some 25,000 kilowatts, would be through the necessary switchgear to a Corporation Electricity Department's distributing station, possibly direct to the existing switch rooms of the Feeder-road power station. The electrical generating capacity of the proposed new combined heat and power plant approximates to that of Feeder-road and might, if desirable, ultimately relieve that station entirely of its present load.

(*g*) The period of time required to complete the whole undertaking is dependent entirely on two factors: (i) The progress of general building reconstruction in the area; and (ii) Upon the demand for the energy.

It can only remain an assumption that there would be an almost universal demand within the area for the new cheap and clean form of heat energy, and that, therefore, the undertaking would be developed in stages, reaching anticipated completion and working to full capacity of output within 17 years of its inception.

FINANCIAL AND ECONOMIC ASPECT: (*a*) It is estimated that the capital cost of the whole undertaking, including preliminary and loan expenses, will amount to the sum of £1,550,000 (one million five hundred and fifty thousand pounds), values being



PLAN OF BRISTOL'S CENTRAL AREA.
(The stippled portion is the area proposed to be the subject of the District Heating Scheme.)

based upon commodity prices ruling at June, 1939.

(*b*) The expenditure of this capital sum would be spread over a period of 15 years, and the recovery of this expenditure entirely from the revenue of the service, after full allowance having been made for running costs, administrative interest charges, sinking fund investment, etc., would be over a period of 21 years. The consumer only and not the rate-paying public generally paying for the service.

(*c*) The selling price at which the therm of heat can be sold to the user is dependent upon two factors: (i) The relation of the total heat sold to the total of capital charges, running, maintenance and administrative costs; and (ii) the price which the Corporation Electricity Department can afford to pay for the electrical energy produced—the higher (i) the lower (ii) and *vice versa*.

(*d*) To produce an income return sufficient to meet all the calculated costs, with the plant completed and running to full capacity, estimated in a full year to be in average £271,000 (two hundred and seventy-one thousand pounds) the heating unit, *i.e.*, the therm, would have to be sold to the user at 4.53d. and the electrical energy to the Corporation Electricity Department at 0.214d. per unit. The selling price for the electrical energy is considered by the authors to be one which the Corporation Electricity Department could afford to pay. The price of 4.53d. per therm for "town heat" energy is relatively cheaper than any other form of heat at present available in the city with two exceptions. The exceptions are the individual direct central heating installation and the slow combustion stove.

COMPARATIVE FIGURES FOR VARIOUS FORMS OF HEATING, TAKING COSTS FOR "TOWN HEATING" AT 100, ARE AS FOLLOWS:

Electric fires	213
Electric thermal storage	129
Open fires	126
Gas fires	121
Town heating	100
Central heating with solid fuel ...	84
Slow-combustion stoves	76

DEVELOPMENT AND ADMINISTRATION OF THE UNDERTAKING: It is proposed that the undertaking should be developed and administrated by the Bristol Corporation, either by a sub-department of the present Electricity Department, with whom it could be linked with many advantages, or by a special department set up for the purpose. Certain necessary statutory powers, to operate and manage the undertaking would be required and these have been dealt with, in detail, in the preliminary reports [Not published.—ED.]. It is also anticipated that the area to be covered by the project will come under some special statutory powers, vested in some national or the local authority, which will enable the grouping of blocks of property, such grouping permitting full advantage to be taken of this proposal and other ancillary amenities.

AMENITY VALUES: The two previous reports dealt in considerable detail with the amenity values of the project, not only for the user but the public generally. Such values, difficult of expression in money, have therefore been excluded from all financial computations. The elimination entirely of the hundreds of chimneys, with their accompanying smoke, the product of inefficient combustion, contributing to fog formation; the preservation of building fabric, due to the absence in the air of the destroying products of inefficient combustion; the elimination of street coal delivery traffic with its attendant dirt and dust—are all matters of vital interest to the public and its health. The burning, when necessary, of the nation's greatest material asset—coal, under the most efficient conditions is also a matter for serious consideration.

Conclusions.

From an examination of the reports in general, the following conclusions may be drawn: 1. That a "heat distributing service" for the central parts of the City of Bristol is a practical engineering proposition.

2. That subject to the following not unreasonable conditions, the project of a "heat distributing service" can be developed on sound financial and economic grounds, ultimately becoming self-supporting:—

(*a*) That the building density of the area is sufficient. It is anticipated that this will be well in excess of the minimum density figure which from experience abroad has proved to be essential;

(*b*) That the maximum aggregate hourly demand for heat within the area is not less than 6 therms per hour per acre. The actual estimated aggregate hourly demand is 15.2 therms per hour per acre; and

(*c*) That the aggregate actual load must not be below 120 therms per annum per foot in length of distributing conduit. The actual estimated aggregate load is 163 therms per annum per foot run of conduit.

3. That an opportunity of centuries now presents itself to include such a project, which is by no means novel and has operated both in America and on the European continent with considerable success, in the re-planning schemes for the Citv of Bristol, providing the commercial centre of the city thereby with a cheap and clean form of heat energy.

4. That the development of such a project need have no harmful reactions, but can be complementary to those other utility undertakings supplying other sources of heat energy, whether owned by the Bristol Corporation or a public utility company.

5. That the capital and running costs of the project are relative to similar costs for other forms of heat energy, and whether ultimately higher or lower than those estimated and set out in the preliminary report, do not affect the strong position held by a "heat distributing service" as the cheapest but two of any other available and up-to-date form of heat energy.

6. That the scheme offers incalculable amenities to public life and added protection to material property generally.

7. That the undertaking would best be developed and managed by the Corporation of the City of Bristol rather than by a public utility company.

BUILDING SOCIETIES AND STANDARDS.

ADDRESSING the Metropolitan Association of Building Societies on its 21st anniversary, Viscount Sankey, President of the Building Societies' Association, said that the Association regarded satisfactory standards of construction and design as cardinal factors in the housing problem. These were matters of elementary social justice. Nor did they represent insoluble problems in practice. The Association was convinced, through the progress which its Reconstruction Committee had already made, that the provision of durable and pleasing houses, despite difficulties, was within the realm of practical achievement. "Those who purchase and those who rent houses must be safeguarded," said the President, "and the Association will exert itself to the utmost in this cause, always remembering that various agencies, from the State downwards, have responsibilities in this matter."

MEASUREMENT OF PLANKING AND STRUTTING

MR. E. C. HARRIS, F.S.I., Hon. Sec. Standard Method of Measurement Joint Committee, writes:—

From time to time inquiries have been addressed to the Standard Method of Measurement Joint Committee bearing on the application of Clause 12 of the "Excavator." These inquiries come from every class of user of the document, including quantity surveyors, surveyors to Government Departments, surveyors of Local Authorities, and from contractors.

To clarify the position, therefore, the Joint Committee have approved the publication of the following statement in the hope that it will assist not only practising surveyors in all branches, but also students. It may also be of service to those charged with the interpretation of forms of contract.

The essence of Clause 12 of the "Excavator" is that a measurement of planking and strutting shall be given in conjunction with all items of excavation, and the effect of this rule is to place upon the contractor the onus of deciding whether planking and strutting shall be used or not. To provide otherwise would constitute an impossible burden on the supervising officer. It must be accepted, therefore, that planking and strutting is part and parcel of the item of excavation, and a measurement is given for the assistance and convenience of the estimator rather than including this work in the description of excavation measured by the yard cube.

The term "planking and strutting" has been adhered to, as it is so well understood and recognised in the industry; elaborated however, the item would read somewhat as follows:—

——— ft. super. Undertake the responsibility for upholding and maintaining vertical sides of earthwork (in trenches or otherwise) by whatever means, if any, is considered to be requisite either by close planking and strutting, open waling, etc., as necessary.

It will be agreed that such description would be unduly cumbersome, but if questions relating to this item be viewed in the light of this description it will be appreciated why a measurement shall be given, even though no actual timbering is performed.

It will further be recognised that the rate at which excavation is priced under the Standard Method is somewhat lower than it otherwise would be by reason of the fact that when quantities are prepared under such method it is known that planking and strutting is given. From this it will be clear that even where the quantities are provisional, planking and strutting must be given wherever excavation is measured, applying the appropriate subdivision of Clause 12, and it is immaterial from the surveyor's point of view whether such planking and strutting has, in fact, been employed.

It is obvious, therefore, that the excavation will always be measured net, and that any falls to the sides of the excavations, consequent upon insufficient planking and strutting, will be at the risk and at the expense of the contractor.

It is hoped that the foregoing statement will remove any doubts in regard to this oft-discussed problem pending the next revision of the Standard Method, when the official text will be amended to render the interpretation of this clause abundantly clear.

ALTERNATIVE MATERIALS & METHODS OF CONSTRUCTION

CONFERENCE AT "PRACTICAL PLANNING" EXHIBITION

A CONFERENCE on "Alternative Materials and Methods of Construction in Buildings" was held at the Institution of Civil Engineers on October 27, in connection with the "Practical Planning Exhibition" organised by that Institution with the Institution of Municipal and County Engineers. MR. DAVID ANDERSON, President-Elect, Inst.C.E., was in the chair.

LORD PORTAL (Minister of Works), who opened the discussion, said that the two heads of the subject really covered all the progress in building, that was to say, both improved methods of carrying out traditional building and the use of new and better materials. Part of the work of his Ministry was to deal with the development and application of improved technique in building, and they had the very closest collaboration with the Department of Scientific and Industrial Research, that collaboration being absolutely essential to any progress in building or construction. "At the present time," said the Minister, "it is particularly necessary to consider all these matters, so that we can prepare ourselves for the post-war programme. My predecessor, Lord Reith, initiated Study Committees on various questions to do with building. Those committees are reporting now, and a certain number of the Reports should be published by the end of the year. The Codes of Practice Committee, which makes it possible for the first time to have a real National Building Code, is doing valuable work under the chairmanship of one of the past-presidents of the Institution of Civil Engineers, Sir Clement Hindley, who is devoting much time to this work."

By appointing a Controller of Experimental Building at the Ministry they had done a good deal, he thought, to co-ordinate all the experiments, which included experiments on such things as steel houses, prefabrication, sound-proofing, and so on. In conjunction with the Building Research Station, they were at present putting in hand certain experimental houses and structures, by means of which, under careful scientific control, they would be able to try out many new ideas with regard to traditional building. It would be realised that it was impossible to do as much of this work as they would like to do, owing to the very heavy war programme that still remained to be completed

"Alternatives Must be Improvements."

"There are certain important points which I should like to make. In the first place, I think you will agree with me that it is a mistake to consider that there is any virtue in alternative methods unless they are proved to be improvements. Except in the immediate post-war period, I do not think there should be any shortage of materials. The Government is alive to the difficulty with regard to timber at the present time, but I think that, in viewing your post-war programme, you should realise that you will have the materials which you were accustomed to have before the war started. As you know, great interest is being taken in the question of whether Controls should continue after the war, opinion being divided on the point. My own view is that control is necessary while a commodity is in short supply, and I do not see any need for discussing the subject further. There should be no shortage of materials after the war, and there is no justification for believing that alternative materials will be necessary because the normal materials will not be available. That does not mean that there will be no need for economy in the use of materials. Every old method must, if possible, be improved. Every new method must have its value proved in effecting a saving in cost, material or labour."

New methods would be essential for post-war building and construction. In judging methods, there were three points that we had to bear in mind. First, we had to consider the technical quality, whether the building was good building; secondly, we had to consider whether it was acceptable to the public at large, taking into consideration local conditions, and, thirdly, we had to consider the questions of efficiency and economy. "But the most urgent matter before us," continued the speaker, "is a reduction in building costs of every type. I have been quoted as saying various things on that subject, but I would say this to you, that in my own Ministry we have set up a Costings Section, which has been and is doing admirable work. After this war certain things will be different from what they were at the end of the last war. Wages have gone up by 29 or 30 per cent., and they will have to remain up. You know quite well that, in building or in any other industry, if wages go beyond a certain figure the industry is killed. Therefore you have to look for new methods. You may say that you give your workers a good wage and you expect them to give you a good day's work. But you have to take into consideration also what I call 'site organisation,' and the efficiency of site organisation must depend to a very great extent on the costing arrangements which you have in your business to-day. I went into the matter very carefully. I was told that certain costs had been got out for a certain type of house distributed through this country, and I found that the increase in cost was 105 per cent. Everybody was astounded and said that it was impossible, but that figure was correct. There were, however, certain considerations which made those costs increase by 105 per cent., which, in normal times, would not operate. I believe it is very much better to face this question of high costs to-day than to wait until after the war. We hear and read arguments every day as to whether we should go in for prefabricated buildings, whether there should be steel houses, and all sorts of other alternatives. You will have to consider, no doubt, that, if you are going to keep your costs relevant to the time, you will have to have a speeding up of construction and you will have to keep your cost of material down. You are labouring under very great difficulties at the present time. You have to be controlled in various ways and you have zoning going on, and you can only get your materials from a certain area. All those things militate against economy and success in costing.

The Necessity for Costings.

"Costings are necessary for efficiency and economy. I look upon my Ministry as one that should be of technical help to other departments in the future. The building trade—both operatives and employers—has done a great work during the war. We have aerodromes all over the country and men being directed there and sent away from their homes, and if we work out the amount of work done we find it is a thing of which the country can truly be proud."

Lord Portal concluded: "Alternative methods of construction and alternative materials must prove themselves. They must prove that they are more efficient and, if possible, more economical, or they are no good."

MR. E. MINORS (Borough Engineer of Darlington), in moving a vote of thanks to Lord Portal, said he was particularly interested to hear that his Ministry was working upon experimental dwellings, and he hoped that those experiments would be carried further, because, until the houses were occupied by the sort of family that would normally occupy them, we could be quite satisfied that they would fulfil the purpose for which they were being built. It was not easy to persuade a working-class family that, if a house was comfortable according to a scientific instrument, they should be satisfied with it themselves. He would like to mention one point which was of extreme importance to local authorities. Almost every local authority was willing and anxious to make a start with new housing, but, unfortunately, that was not possible. The local authorities were awaiting information from the Government. "No authority at the moment," declared the speaker, "can make any move in the matter until the standards and questions of finance and other matters connected with post-war housing have been indicated." In his own authority in the North of England after the last war, it was fifteen months after the Armistice was signed before the first contract for houses was let, and it was nearly two years before the first house was occupied. He could not think that that was an isolated case, and he was quite sure that the people of this country would not put up with such long delays again.

THE ENGINEER'S VIEW.

MR. R. T. JAMES, M.Inst.C.E., dealing with the subject of the discussion from the engineering point of view, said that, broadly speaking, very little change had taken place in the system of construction and the form of dwelling-houses in this country for hundreds of years. It might be worth while, not in any conservative spirit, to study the construction of those houses, in order to see what virtues they possessed which had enabled them to persist for so long.

"We will consider first the main wall face," he said. "There are two methods of preventing the penetration of driving rain, which is one of the biggest troubles. One method is to have a good thick solid wall, so that the rain can drive into the the surface but not through the wall and can later be evaporated out. The second method is to have an impervious skin, and that method will be adopted, I think, in a considerable number of the new designs. An impervious skin is quite satisfactory so long as there are no cracks in it. If you consider the enormous number of joints and junctions that there has to be round sills, lintels, doors, plinths, and so on, I think you will agree that the starting point for the criticisms of any form of wall construction using a hard impervious skin is the design in detail and not the main wall face. Anybody can devise a new form of wall in a general way; it is the details which cause the trouble. You all know the trouble that is caused by exasperating damp spots, which you cannot cure because it is inherent in the design of the details, and you all know the trouble caused by water that freezes and disintegrates the surface of the walls and increases the rate of deterioration.

"There has been a tendency during the last generation to design plain buildings, even in the case of town halls and buildings of that kind. I believe that the older elaboration and ornament were more protective than is generally recognised. The traditional mouldings were really protective, as they formed numerous drips and prevented ugly staining and minor damage and deterioration. The old elaboration and ornament had certain fundamentals which the designers of the last generation, with their enthusiasm for plainness, cut out, and we can see many examples of the harm which that did. In considering new designs we must think of these details, not from any conservative or biased point of view, but from a purely scientific

point of view, and we must study the old designs from a scientific aspect, which I do not think has ever been done thoroughly before. We shall then be better qualified to judge the new designs.

"With regard to the pitched roof, which is a very controversial subject, if you study it closely I think you will find that, although it is built up from components—rafters, wall plates, battens and so on—it acts as a whole. There is another very interesting thing about it, namely, that there are no tensions at any of the connections; there are only compressions and shears, and the shear resistances are developed by friction. Furthermore, you will find that the sufficiency of the shear resistances is bound up with and derived from the traditional pitch. Therefore, by the time the roof is built and has got its full load and has bedded itself in, it is inherently stable, and has no need for bolts in tension or anything like that. If that was not so, pitched roofs would not have lasted for so long. That is a point of comparison in the examination of the new designs, in which the stability and stiffness may be controlled by hidden bolts in tension or clips, which may not be permanently protected from rust, and therefore those bolts and clips may govern the life of the house. That is another reason why the old forms have persisted, because in all the hundreds of years during which the old forms have been used people must have tried various alternatives

"With regard to soundproofing, really reliable sound-absorbing materials can be incorporated, but their use is rather difficult. It has been said that the most soundproof partition is an 18-in. solid brick wall. Light weight partitions can transmit sound, but that should be regarded not so much as an encouragement to weight as a warning against light constructions, which may suffer from traffic vibrations, and so on."

All those points could be studied with greater precision and debated in detail, but there were certain new materials, such as reinforced concrete, which had been well tried and could be used with confidence. The total weight of a house was very small, but a large amount of labour and material was used in excavation and concrete and brickwork in the foundations, mainly in order to try to counter the seasonal effect of weather, and so forth, on the ground. A properly designed reinforced concrete raft should be used, he thought, much more frequently. It should be possible to design a raft which would suit almost any type of house. Again, a reinforced concrete beam could be used. The actual foundations could then go down to their proper level, with the rest of the house resting on the reinforced concrete beams. The main point was that the actual loads which had to be carried were very small.

"At the end of the war there will be, of course, a very great production of iron and steel, and a large number of men will be employed in that production, so that, undoubtedly, there will have to be a greater use made of steel in houses, but I suggest that we should not start on the design of such houses in the same way as we design bolts and trusses, and so on. It is very important to be able to make a steady and informed criticism of new designs for houses, because a house is a very intimate possession."

AN ARCHITECT'S OUTLOOK.

MR. GREY WORNUM, F.R.I.B.A., said he would suggest (it might be a truism) that the great historic styles of the past had all grown out of the proper use of the material available at the time. One of the important traits of those fine traditional buildings, which carried out the great purpose of architecture, was that all of them improved in beauty as the years went by. They became more beautiful as they became older. No synthetic materials of which he knew and no man-created materials had that quality; they all started to decay almost at once. The original great styles were built on a long-term policy. "If after the war we are going to attempt a policy of long-term building we shall have to employ building materials and building methods that will not lend themselves to a great output of production any more than they can be faced up to economically. Since we have not got to copy a period style, we might possibly be able with success to consider using what I call short-term policy materials, that is, those alternative materials which do not become more beautiful with age but which are man-produced and can be produced in great quantity. I do not mean that structures, whether houses or other buildings, should become ready for the scrap-heap at the end of 20 years, because replacement of the parts that decay is possible. The part that decays and is likely to decay in many structures of a light frame nature is the skin, the part that is exposed to the weather, and the renewal of a skin is no new thing in the building world."

In the last hundred years the population of England and Wales had multiplied itself by three; it was only fifteen million a hundred years ago. We had with us what he might almost term "the mass man." He would give an analysis, made by a qualified engineer, of the "mass man's" house of to-day, an ordinary six-roomed house. It had been calculated that such a house contained 53,000 separate parts, 20,000 of them being single bricks, each of which had to be man-handled and laid by hand. The structure was assumed to weigh about 125 tons, and six tons of that weight was water. The load it had to carry was a load of about six tons of human beings and their belongings. "Can any of you, as engineers," asked the speaker, "really consider that anything as complex as that is a solution of the housing problem, and, if it is a solution, is it a solution for the mass man? I feel emphatically myself that it is no solution."

An American architectural journal had published at the end of last year a special article entitled "The House of 194X." There was suggested the employment, almost exclusively, of the synthetic materials and manufactured materials such as he (the speaker) had termed short-term materials. The aim of such construction appeared to be, in the first place, dry building, lightness for transport purposes, and good insulation from heat and cold. With regard to the æsthetics that such materials and methods might produce, he was quite convinced that the younger generation had no anxiety at all as to the character of those æsthetics, and it was just as well that those of us who were getting older should realise that. "In the fruits on the ceiling of this room," said Mr. Wornum, "there may be some peaches, and they will convey absolutely nothing to the next generation as ornaments, because their idea of a peach will be a half-sphere with a hole in it, in a can. I imagine that most of the rest of the fruits will be in a dehydrated form, more or less as a powder. But that does not mean that the younger generation will not produce for their age æsthetics of value, nor does it mean that they do not appreciate what we might call the real thing.

"With regard to my profession, I think it is quite prepared to see some completely new change in building technique, so long as it carries with it good planning, sound construction and good design. With regard to the building industry, I should think it may view such proposals with alarm. But there is much that must remain in the hands of the building industry in the reconstruction and repair of our cities, and there are many trades in the building industry which I think would be much better carried out in a factory rather than *in situ*. Plumbers, for instance, spend most of their lives on their knees under lavatory basins and in water closets, and I can see no merit in their doing their work in that way when they might do it far more productively in a factory. So far as the building industry is concerned, I do not think there is any cause for alarm on their part, but I do not want to see the building industry held up by the discouragement of any possible developments that industry itself might give in regard to this new technique.

The Materials of the New Technique.

"With regard to the kind of materials that this technique is likely to embrace," added the speaker, "it would obviously embrace metals and light metal alloys and very light steel, which can be cold-rolled or pressed. It would naturally include also aluminium, plywood with resin bonding, and plastics, which cover a vast field. I have seen (and I know that many of you have seen) the result of impregnating materials such as wallboard and plywood with plastics, which can give them an absolutely different quality. Plastics are being used in America now for the purpose of joining metal to plastic or even metal to metal. I do not trust everything that I read in the American papers, but I read recently that the Americans maintain that, as an adhesive for joining metal to metal, plastics are as good and as strong as welding. Then there are all the insulating materials and insulating boards, rubber and synthetic rubber, asbestos, glass, which has made great strides and now includes glass wool, and there are also the light-weight concretes, such as aerated concrete, which is so light that it can float and which can be reinforced with stressed wire and fixed together with post-stressed wire. With regard to finishings, the stove enamelling which one can now get on cast-iron is giving entirely new uses for that. There are the various resins, and so on, and many other materials, and you will notice that up to now I have not even mentioned the word 'prefabrication.'

"In conclusion, I should like to strike a serious note. I started by referring to the Victorian age a hundred years ago. The reason why that craze for style took place in 1851 was that England wanted its cities to vie in splendour with all the famous historical cities in Europe. What good will it do us if we continue in that style? As the war proceeds from day to day we are bombing and laying low and destroying by warfare city after city in Europe, so that we may visualise, when the war is over, almost clean sites for the occupied countries and enemy territory, and what we shall have to compete with then will be new cities, new buildings and new techniques. I think that is an important point to bear in mind. The architects and the engineers will need to work more and more closely together. I think there is an extraordinarily good liaison at present between our two professions, though I notice a little slip-up occasionally. An architect friend of mine saw this Exhibition yesterday, and he asked me to mention to you that in your 11-in. hollow wall the brick is placed with the frog up the wrong way."

THE B.R.S. VIEWPOINT.

MR. I. G. EVANS (Director, Building Research Station) said that whenever a form of construction was proposed which departed radically from the conventional house, it was essential, in considering the design bases, to get back to first principles; otherwise trouble was bound to result. "A familiar illustration will, perhaps, make clear what I have in mind. The 9-in. solid brick external wall is made as thick as it is largely to keep out cold and damp. But, in so doing, we provide automatically a wall which is sufficiently strong to carry the ordinary domestic loads—in fact, much more than sufficiently strong. If now we develop a new form of construction in which the function of keeping out

cold and damp is separated from that of supporting the load—for instance, a design which provides for the load to be carried by a frame and for the cladding, whatever it may be, to keep out the cold and damp—it is necessary to make sure that the frame is strong enough to carry the load, and, when economy in labour and materials is important, it is desirable that, in making the frame sufficiently strong, we do not waste any materials.

"A number of similar points arise with regard to house design; for instance, sound insulation. It is becoming an increasingly serious problem. Noise sources have tended to multiply and increase in intensity, while construction generally has tended to become more sound transmissive, and there is probably no aspect of building construction to-day which is in more need of the attention of designers than is insulation against noise. With regard to dwellings, the problem is most serious in flats, but even in ordinary semi-detached or terrace houses the problem should not be overlooked. The chief point is to keep one's neighbour's noise out, that being the most annoying form of noise. Something can be done, of course, by internal planning. It can be arranged, for instance, that the living-room and kitchen shall abut on one another, instead of the two living-rooms. The main protection from noise is given by the conventional 9-in. party wall, but experience shows that that is barely adequate for the purpose, and it would be lamentable, in developing new designs, to have a party wall which gives less sound insulation than a 9-in. party wall; in fact, the aim should be to improve upon that wall. One cannot do much, of course, with the 9-in. brick wall by simply adding to the mass, because with a solid wall there is a relation between the sound transmittable from one side to the other, depending on the weight, but the relation is such that the additional effect obtained with increasing thickness tails off very rapidly. It would probably be necessary to have an 18-in. wall in order to get any appreciable improvement, and that would be uneconomic in most cases. Something can be done by the introduction of discontinuities."

"In making these suggestions I am not considering for the moment any existing bye-laws, but I am speaking from the scientific point of view. In the case of flats, there is not only the party wall to consider, but also the insulation of the floors dividing the flats, and in that case we have the familiar problem of impact noises, e.g., the noise of footsteps overhead. It is important to have a clear idea as to what effect we are trying to produce, so as to ensure that we get reasonably comfortable dwellings. There are also, of course, noises caused within the dwellings, but they are not so much trouble as the others, because they are more under one's control. They should not, however, be forgotten. Something can be done, I think, in the light of the information we have now obtained as a result of the work done during the last ten or fifteen years, to make suggestions as to the kind of standards at which we should aim."

Fire Protection in Houses.

Another question to be considered was that of fire protection, which gave rise to a number of problems. He would mention two only. One important point in connection with fire was to prevent it spreading from one dwelling to its neighbour. For this the main provision was the 9-in. brick wall. Whatever might be said about the 9-in. brick wall from the point of view of sound insulation, it was certainly a very effective fire stop, for it would withstand the severe conditions laid down in the British Standard tests for fire resistance for as long as six hours. "No domestic fire," said Mr. Evans, "will approach an intensity equivalent to that represented by six hours under the standard test conditions, and I think it is questionable whether it is necessary to require a 6-hour fire resistance. In fact, examination of burnt-out buildings containing the same amount of combustible material as an ordinary domestic house has indicated to us that a wall having a resistance, as measured by the standard test, of no more than two hours has successfully withstood the spread of fire. In this respect, therefore, the 9-in. brick party wall can be considered to be much more than adequate, and it would be unfair, I think, to penalise any other form of construction, otherwise attractive, merely because it did not offer the fire resistance equal to that of the 9-in. brick wall."

With regard to the spread of fire inside a dwelling, it was, of course, clear that fire should not be able to spread so rapidly as to give the occupants no chance of escape. With alternative methods, an inner lining of wallboard had been successfully used for thermal insulation. With some untreated insulating wallboards, however, there was a serious risk that any fire started would spread so rapidly across their surface as to prejudice the chance of escape. Cases were known in which within one minute of the outbreak escape was seriously endangered. With the normal brick construction, these two points were automatically covered, but they were points which should be very carefully considered in connection with the development of alternative methods.

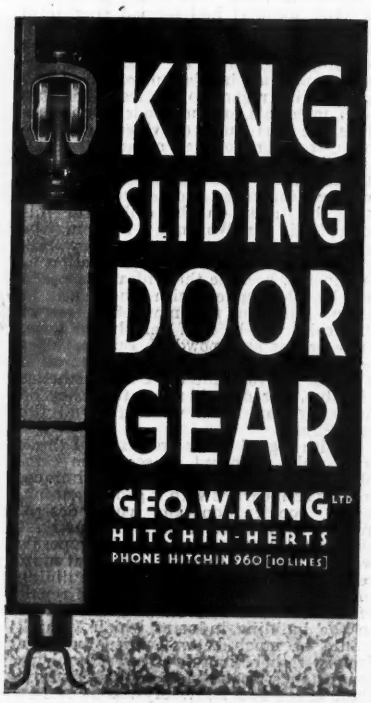
Thermal Insulation.

"The question of thermal insulation gives rise to a number of interesting points. It is obvious, of course, that the amount of heat required to keep a room comfortable for the occupants is determined by the amount of the heat losses that take place as a result of the escape of warmed air, and through the windows and through the structure itself. The loss through the structure itself is an important factor. The lower the thermal insulation provided by the structure the more it will cost to keep the room warm, or, alternatively, on a limited income, in which expenditure on fuel has to be carefully watched, it may lead to a cold house. More insulation may mean an increased initial capital outlay, but this is offset by lower heating costs.

"With radically new design, therefore, it might be useful to consider this point rather closely. Even with the conventional brick house, it can be shown that the addition of insulation could be considered with advantage from the point of view of reducing heating costs. For example, it has been estimated that, on the average, about £10 is spent per annum per dwelling on heating, and that, in the case of an average small dwelling-house with a floor area of about 375 sq. ft., in which the floor construction is of 1-in. tongued and grooved boarding on timber joists, with a well ventilated air space underneath, about 36s. of the £10 is accounted for by losses through the floor. With an interest rate of 3½ per cent., 36s. per annum will cover, over 40 years, the interest and repayment charges on a capital sum of about £38. In other words, if the heat loss through the floor could be halved there would be a margin of nearly £20 to play with, while yet keeping on the credit side. With alternative forms, some reconsideration of design might well show how the additional insulation could be provided with little or no additional capital outlay. The same process of thought can be applied to the walls and the roof, and it can be shown that with an 11-in. cavity wall, and still more with a 9-in. solid wall, some useful heat insulation can be obtained. There is something to be said, therefore, for attempting to strike the right kind of balance between the initial capital outlay and the running costs, and it is still more important to make sure that any alternative form of construction does not give a standard of thermal insulation which will lead to a cold house, because that, at all costs, is to be avoided."

He would make no apology for referring to the question of freedom from vermin infestation. We heard a great deal about the bed bug before the war. It was held by many that cleanliness, fostered by ample supplies of hot water and convenient planning, was, perhaps, the best defence of all. Another was to reduce the amount of harbourage for the bed bugs as much as possible by reducing cracks and crevices. Probably crevices could not be eliminated altogether, even with normal brick construction and plastered surfaces, because they were likely to occur behind skirting boards and so on. In this connection another point arose with regard to alternative construction. There would be a place, he thought, for the house with wallboards to provide thermal insulation, probably with a cavity behind, but that did raise a question whether it was not inviting trouble from bed bug infestation. It was still possible, however, to consider whether disinfestation of the house could be made easy, if it did become necessary, by making the wallboards readily detachable.

In conclusion, said the speaker, the brick house was to be treated with considerable respect. "It has brought us through the centuries, and it is well to bear in mind the possibility that, in the process of evolution in the light of hard experience, safeguards may have been introduced into the brick house the reason for which has now been forgotten. We should consider this matter carefully, because such safeguards may be overlooked at our peril."



GENERAL DISCUSSION.

MR. WILSON said that a point to which he wished to refer was the kind of treatment which the new houses would be expected to stand. The Director of the Building Research Station had mentioned certain experiments, and he wondered whether the necessity of testing any proposed form of house by installing a standard family in it had been considered. He suggested that a standard

family consisting of a father and mother and six children, the children being armed with hammers and anything else they could get hold of, should be introduced into any proposed new form of house to see whether it would stand the treatment which it would then receive.

"With regard to alternative materials," added the speaker, "a good deal about plastics has appeared in the Press, and I suggest that in connection with plastics or any other new material some reference should be made to what had happened in the past when a new material had been introduced. For instance, when cast-iron was introduced its advocates wanted to use it for everything, even for such things as fountains and gravestones, for which it was quite unsuitable. I think that people who want to push new materials should, in their own interests, be very careful about their application."

MR. GRAY (Merton and Morden Council) said he happened to have spent his working life in the building trade, and, personally, he could not see anything wrong with the old materials, but there had been a great deal wrong with the application of those materials. He had been very pleased to hear Lord Portal refer to the National Building Codes of Practice. Those present who professionally and, like himself, individually had had to work amongst various local authorities, all working under different bye-laws which called for different uses of materials, and so on, fully realised that it was about time that National Codes of Building Practice were brought into being. "There is a need for stiffening up bye-laws in relation to plumbing and hot and cold water fittings. These things will affect post-war planning and are the main points which would be interesting to the housewife. She will not be much concerned if she has a house made of plastic materials, but she will be very much concerned if she has a house in which the pipes freeze in the winter and all the heat goes up the chimney, so that she has to pay a big coal bill and finds that the house was not heated." He sincerely hoped that the great professional bodies would get down to brass tacks in the matter of prefabrication, so that they could give to the professions and trades the benefit of their experience and see that they did not depart too quickly from the old methods of building. People should pay some regard to the old British methods of building.

DR. R. BRADBURY said that he had listened with a great deal of interest to what had been said, but it had somewhat disturbed him. When the war ended a very considerable number of houses would be required quickly, and he viewed with alarm the idea of people in all parts of the country experimenting with all sorts of different materials, not really knowing how those materials were going to work. "It seems to me that the problem must be looked at from a realist point of view. Those concerned must remember that there is one method of construction which has been found to be reasonably satisfactory, and they must admit that they are not yet in a position to adopt other methods of construction, though undoubtedly other methods will come in time." It seemed to him that the greater proportion of the houses built in the first few years after the war would have to be built more or less along the lines of traditional construction and that, while those houses were being built, very intensive research would have to be carried out with regard to the newer methods, so that, as those newer methods settled down into more or less a standard technique, they could be applied by the various local authorities as a solution of the housing problem. He felt that the programme in this country must be divided into 90 per cent. on more or less traditional lines, the remaining 10 per cent. being experimental, and, when the 10 per cent. had really proved its worth, the construction could be made 100 per cent. new construction.

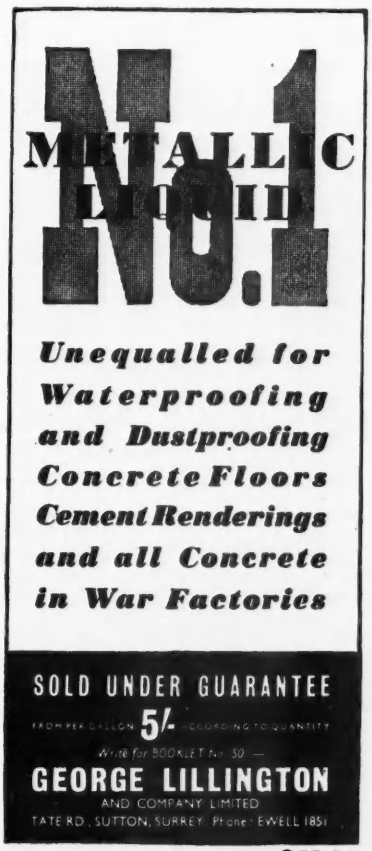
OBITUARY

Thomas R. Milburn, J.P., F.R.I.B.A.

Mr. Thomas Ridley Milburn, whose death we regret to record, was head of the Sunderland firm of William and T. R. Milburn. A member of the R.I.B.A. since 1887, when he became A.R.I.B.A., he and his firm designed a large number of buildings in Sunderland and elsewhere, including a great many theatres, music-halls and cinemas. Of these, the "Dominion," Tottenham Court-road, London, is probably the best known, but other examples are to be found in Liverpool, Glasgow, Edinburgh and Birmingham. The firm's other work included several hospitals, schools, hotels and factories. Mr. Milburn, who was 82, was vice-president of the R.I.B.A. in 1925-26.

William Ravenscroft, F.R.I.B.A., F.S.A.

By the death, at the age of 95, of Mr. William Ravenscroft, F.R.I.B.A., F.S.A., the R.I.B.A. loses one of its oldest members. Articled to the late W. H. Woodman, of Reading, he was for some years assistant to Richard Drew, of Storey's-gate, S.W.1, before setting up in practice. He won several competitions, one (the R.I.B.A. and Local Government Board competition for cottage designs, S.W. Division) when in his 70th year. He published several books, including one on William of Wykeham and his works—mostly carried out in Reading (where he practised with Mr. Rooke) and district—included the College Hall of the University College; the British Dairy Institute; the Sutton Memorial Hall; the Central Boys' School; many country houses; and about 100 houses at Milford-on-Sea (where he had lived for many years), and over 50 at Lymington.



B75-24

POST-WAR HOUSING

OPPORTUNITIES FOR PRIVATE ENTERPRISE.

SPEAKING at the annual meeting of the Yorkshire County Association of Building Societies, on November 5, the Minister of Health (MR. ERNEST BROWN) reviewed the housing situation and compared it with the conditions "between the war."

"Let us take a look at the conditions in 1932," said the Minister, "when we were busy framing the Bill which became the Housing (Financial Provisions) Act of 1933, and see whether we can learn any lessons for the future. What were the conditions at that time? The cost of living was 44 per cent. above the 1914 level. The cost of building was averaging about 8s. 10d. per foot super. The rate of interest charged by the Public Works Loan Board had begun to fall—it was 4 per cent. at the close of the year as against 5½ per cent. at the beginning. Houses were being built at the rate of 200,000 a year, 70,000 of them by local authorities and 130,000 by private enterprise. The Wheatley subsidy, though at a reduced rate, was still being paid for houses built by local authorities for general needs. This subsidy was also available to private enterprise, but the conditions attached to it made it unattractive to the speculative builder, and its use was therefore largely confined to landlords building cottages on their estates. Private enterprise and the local authorities were still to some extent competing in the same field.

"Lord Kennet's policy was to clear the way so that both local authorities and private enterprise could go ahead without treading on one another's toes. He wished to concentrate the energies of the local authorities on the work which most needed doing. The Wheatley subsidy for general house-building was withdrawn, and the activities of local authorities were thus concentrated on the clearance of the slums. The colossal nature of the task and the zeal and success with which the local authorities tackled it are too well known to need elaboration. They made such good progress that by 1935 it was possible to attack the second of the great social problems connected with housing, the relief of overcrowding. To private enterprise was left the meeting of the general housing needs, on the clear understanding that where they failed local authorities would step in. It was recognised that to meet this need, houses for letting were required as well as houses for sale, and the Act of 1933 contained the scheme designed to guarantee advances made by building societies in respect of houses built for letting."

Under that scheme 21,500 houses were built. People who judged Lord Kennet's policy by those figures were apt to conclude that the Act was not a success. But by 1934 the cost of building had fallen from 8s. 10d. to 8s. 1d. per foot super, and the cost of living was 41 per cent. above the 1914 level as against 44 per cent. The rate of interest charged by the Public Works Loan Board was still falling, and had come down to 3½ per cent. before the end of the year. Houses were being built at the rate of 313,000 per year, of which 260,000 were being built by private enterprise. Private enterprise had, in fact, doubled its output in the space of twelve months. A further fillip to private enterprise was given by the decontrol by the Rent Restrictions Act of 1933 of all houses with a rateable value exceeding £35 (£45 in the London

area) as from September 29, 1933. The figures of house production for subsequent years were :—

	Private Enterprise	Local Authorities
1935	... 275,000	... 43,000
1936	... 274,000	... 65,000
1937	... 266,000	... 71,000
1938	252,000	... 88,000

"In view of the importance of the building of houses for the small man and of the building of houses to let, we must not forget that of the 365,000 houses built without Exchequer assistance by private enterprise during the eighteen months ended March 31, 1939, nearly 320,000 had a rateable value not exceeding £26 (£35 in London), and that of this 320,000 110,000 were occupied by persons other than the owners. I am glad to know," added the Minister, "that building societies fully share my view that building to let will be of even greater importance when we resume house production."

Private Enterprise and Housing Standards.

"What sort of houses did private enterprise build?" asked Mr. Brown. With such a big ouptput as 3,000,000 houses there were bound to be charges of jerry building against the industry during the twenty inter-war years. It was true that some houses were built of unsatisfactory materials, particularly in the earlier years, and that there were instances of scamped workmanship and bad design. But the charges were exaggerated; the general standards of design and work, taking the field as a whole, were superior to those of any similar period before 1914. But we would have to do even better after this war, and there must be no cause whatever for complaint. We must, therefore, have machinery to ensure that every house was built to a proper standard, and he was glad to know that the industry itself entirely agreed.

"What does all this show? I submit that it makes it abundantly clear that, given cheap money, plentiful supplies of labour and materials, the minimum of control, building prices which are not out of relation to the cost of living, and, above all, stability of values, the contribution which private enterprise can make as regards both quality and quantity in solving the housing problem is unlimited. We must, therefore, bend all our energies towards re-establishing those conditions at the earliest possible date after the war. We must get building costs in reasonable relation to the cost of living, otherwise the whole of the post-war housing scheme will be jeopardised. We must not risk a repetition of 1921, when we were forced to suspend operations because of high prices.

"A word, and a very careful one, here on the thorny question of controls. Our aim must be to reduce them to a minimum—and I do not forget that the main responsibility for one control, rent control, which will have such an important bearing on both the repair of existing and the building of new dwellings is mine—but we must realise that so long as there are shortages, whether of labour, materials or dwellings, the continuance of some controls cannot be avoided. I suggest that our motto should be 'the fewer the better.'"

HOUSING AND THE UTHWATT PLAN.

Speaking later at the meeting, MR. DAVID W. SMITH (of the Halifax Building Society) said that the Government would be warmly supported by the building industry and those interested in building finance in any reasonable measures it took to check flagrant land speculation and to prevent the inflation of post-war prices of essential building materials. "These evils, and the dead hand of bureaucracy," he declared, "constitute the gravest threat to post-war rehousing." He expressed entire agreement with the proposal to facilitate the acquisition of land by local authorities for housing and other public purpose, subject to reasonable compensation, and advocated the setting up of a Central Planning Authority, control of sporadic development, prevention of ribbon building, enforcement of standards of design, construction, materials, and workmanship, and the use of building society finance for the building of houses for letting as well as for purchase.

"But," he added, "when it comes to the practical question of what is the best method of tackling the post-war housebuilding problem, I do not waver an inch in my conviction that the last quarter of a century has demonstrated beyond doubt that the fullest use of private enterprise is the key to overtaking the housing shortage in the least possible time at the cheapest possible price. Believing that the adoption of the Uthwatt Committee's proposal that the State should acquire the development rights in land outside built-up areas will 'cabin, crib and confine' the activities of private enterprise, I am unrepentantly opposed to it, and respectfully suggest that the Government could well give sympathetic consideration to many admirable suggestions in the Barlow, Scott, and Uthwatt Reports without venturing upon a revolutionary change in our system of land tenure."

An advertisement of The Trussed Concrete Steel Co. Ltd.
4-501

REPAIR OF HOUSES

£100 LIMIT NOT CHANGED IN RESPECT TO PRIVATE OWNERS.

WE published in our issue for October 22 the full text of the Ministry of Health Circular (No. 2871) dealing with the new scheme for the repair of houses and flats, etc. There appears to be a good deal of misunderstanding with regard to this scheme. It does not, as has been widely assumed, release new labour for this work. All that it does, in effect, is to provide that what is called garrison, or immobile, labour is used to best advantage in the repair of houses, and of this the Local Authorities are considered to be the best judges. We have been asked to emphasise the fact that the M.O.H. scheme does not modify the provisions of Defence Regulation 56A. Nor does it relieve the owner, architect or builder of the obligation under that Regulation to apply to the Ministry of Works for a building licence in cases where the owner proposes to spend more than £100 on the property in a period of twelve months.

The position under the new scheme is briefly as follows :—

1. Local Authorities have been authorised to carry out essential work at a cost not exceeding £250 on any one house and £200 on a flat. No licence from the Ministry of Works is required in such circumstances.

2. Private owners wishing to carry out essential work within similar limits may make application to the Regional Licensing Officer of the Ministry of Works for a licence to enable them to do so.

3. A Local Authority may grant, on the application of a private owner, a certificate of essentiality in respect of such work. The most convenient procedure in such cases will be for the applicant to forward to the Local Authority his application for a certificate of essentiality and the application for the Ministry's licence (Form C.L.1136) at the same time. If a certificate of essentiality is granted, the Local Authority will transmit it, together with the application for the licence, to the Regional Licensing Officer of the Ministry, who will issue the necessary licence direct to the applicant.

Local Authorities may, if they think it desirable, allow new houses which were stopped on the outbreak of war to be completed.

The Ministry of Works has issued a new and improved form of application for building licence (Forms C.L.1136, referred to above) which includes admirably brief and clear notes for the guidance of applicants.

Housing (Rural Workers) Acts, 1926-1942.

The Ministry of Health, in Circular 2877 to Local Authorities, states that applications for assistance under the Housing (Rural Workers) Acts in respect of works which will not cost more than £250 a house may now be dealt with, in consultation with the housing authority, in accordance with the principles laid down in Circular 2871, and it will no longer be necessary in these cases to submit particulars of individual applications to the Minister.

If in any exceptional case it is desired, despite the need for spreading the available labour and materials over as many cases as possible, to grant assistance in respect of works costing more than £250 a dwelling, full particulars, including plans and specifications, must be sent to the Minister's Senior Regional Officer so that it may be decided whether the carrying out of the works can be approved.

RATES OF WAGES IN THE BUILDING TRADE

AS AND FROM 2nd APRIL, 1943

[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors]

	Crafts-men.	Lab-ourers.		Crafts-men.	Lab-ourers.		Crafts-men.	Lab-ourers.		Crafts-men.	Lab-ourers.
Aberavon	2/0	1/7	Cleveleys	2/0	1/7	Isle of Thanet	1/10	1/5½	Saxmundham	1/8½	1/4½
Aberdare	2/0	1/7	Clitheroe	2/0	1/7	Isle of Wight	1/9½	1/5	Scarborough	1/11½	1/6½
Abergavenny	2/0	1/7	Cobham (Surrey)	1/11	1/6½	Keighley	2/0	1/7	Scunthorpe	2/0	1/7
Abingdon	1/10½	1/5½	Colchester	1/11½	1/6½	Kenilworth	2/0	1/7	Selby	2/0	1/7
Accrington	2/0	1/7	Colwyn Bay	1/11	1/6½	Kettering M.B.	2/0	1/7	Sevenoaks	1/10½	1/5½
Aldeburgh	1/8½	1/4½	Congleton	1/11½	1/6½	Kidderminster M.B.	1/11½	1/6½	Sheerness	1/10	1/5½
Aldershot	1/10½	1/5½	Coventry C.B.	2/0	1/7	King's Lynn	1/10	1/5½	Sheffield	2/0	1/7
Alfreton U.D.	2/0	1/7	Cranbrook	1/10	1/5½	Kirkham	2/0	1/7	Shipley	2/0	1/7
Alnwick	1/11½	1/6½	Cranleigh	1/10	1/5½	Knowle	1/11½	1/6½	Shoeburyness	1/11½	1/6½
Altrincham	2/0	1/7	Crawley	1/10	1/5½	Lancaster	2/0	1/7	Shoreham	1/11	1/6½
Amble	1/11½	1/6½	Crewe	1/11½	1/6½	Leamington M.B.	2/0	1/7	Shrewsbury M.B.	1/11½	1/6½
Amersham	1/10½	1/5½	Cromer	1/9	1/4½	Leatherhead	1/11	1/6½	Sittingbourne	1/10	1/5½
Ammanford	2/0	1/7	Crowborough	1/10	1/5½	Leeds	2/0	1/7	Skegness U.D.	1/11	1/6½
Andover	1/10	1/5½	Cuckfield	1/10	1/5½	Leicester C.B.	2/0	1/7	Sleaford U.D.	1/10½	1/5½
Ardingly	1/10	1/5½	Darlington	2/0	1/7	Leighton Buzzard	1/9	1/4½	Slough	1/11	1/6½
Arundel	1/10	1/5½	Darwen	2/0	1/7	Letchworth	1/11	1/6½	Smethwick	†2/0	†1/7
Ascot	1/10	1/5½	Daventry M.B.	1/10½	1/5½	Lewes	1/10	1/5½	Southampton	1/11½	1/6½
Ashby-de-la-Zouch U.D.	2/0	1/7	Deal	1/10	1/5½	Lichfield M.B.	1/11	1/6½	Southend-on-Sea	1/11½	1/6½
Ashford (Kent)	1/10	1/5½	Denbigh Town	1/11	1/6½	Lincoln C.B.	2/0	1/7	Southport	2/0	1/7
Ashford (Middlesex)	2/0	1/7	Derby C.B.	2/0	1/7	Littlehampton	1/10	1/5½	South Shields	2/0	1/7
Ashington	1/11½	1/6½	Devizes	1/9	1/4½	*Liverpool	‡2/1	¶	Spalding	1/10	1/5½
Ashtead	2/0	1/7	Dewsbury	2/0	1/7	Llandudno	1/11	1/6½	Stafford M.B.	1/11½	1/6½
Ashton-under-Lyne	2/0	1/7	Didcot	1/10	1/5½	Llanelly	2/0	1/7	Staines	1/11	1/6½
Aylesbury	1/10	1/5½	Diss	1/8½	1/4½	London—			Stamford M.B.	1/11	1/6½
Aylsham	1/9	1/4½	Doncaster	2/0	1/7	12m. radius	2/1½	1/8	Stevenage	1/11	1/6½
Bagshot	1/10	1/5½	Dorchester	1/9½	1/5	12-15m. radius	2/1	1/7½	Stockport	2/0	1/7
Banbury	1/10	1/5½	Dorking	1/10½	1/5½	Long Eaton U.D.	2/0	1/7	Stockton-on-Tees	2/0	1/7
Barnsley	2/0	1/7	Dover	1/10	1/5½	Longton	2/0	1/7	Stoke-on-Trent C.B.	2/0	1/7
Barnstaple	1/10	1/5½	Dovercourt	1/10	1/5½	Loughborough M.B.	2/0	1/7	Stourbridge M.B.	2/0	1/7
Barrow-in-Furness	2/0	1/7	Driffield	1/10½	1/5½	Louth M.B.	1/10½	1/5½	Stourport U.D.	1/11½	1/6½
Barry	2/0	1/7	Droitwich M.B.	1/11½	1/6½	Lowestoft	1/10	1/5½	Stowmarket	1/9	1/4½
Basingstoke	1/10	1/5½	Dudley M.B.	2/0	1/7	Luton	1/11½	1/6½	Stratford-on-Avon M.B.	1/11	1/5½
Bath	1/11½	1/6½	Dunstable	1/10½	1/5½	Macclesfield	1/11½	1/6½	Stroud	1/11	1/6½
Batley	2/0	1/7	Durham City	2/0	1/7	Maidenhead	1/11	1/6½	Sunderland	2/0	1/7
Beaconsfield	1/10½	1/5½	Eastbourne	1/11	1/6½	Maidstone	1/10½	1/5½	Sutton Coldfield M.B.	2/0	1/7
Beccles	1/8½	1/4½	E. Glam. (Mon. Val.)	2/0	1/7	Malvern U.D.	1/10½	1/5½	Swaffham	1/8½	1/4½
Bedford	1/11½	1/6½	East Grinstead	1/10	1/5½	Manchester	2/0	1/7	Swanage	1/10	1/5½
Berkhamsted	1/10	1/5½	Edenbridge	1/10	1/5½	Manningtree	1/9	1/4½	Swansea	2/0	1/7
Berwick	1/11½	1/6½	Ely	1/9	1/4½	Mansfield M.B.	2/0	1/7	Swindon	1/10½	1/5½
Beverley	2/0	1/7	Epping	2/0	1/7	March	1/9	1/4½	Tamworth M.B.	1/11½	1/6½
Bexhill	1/10½	1/5½	Exeter	1/11½	1/6½	Margate	1/10	1/5½	Taunton	1/10½	1/5½
Bideford	1/10	1/5½	Exmouth	1/10½	1/5½	Market Harborough	1/11	1/6½	Tenterden	1/10	1/5½
Biggleswade	1/10	1/5½	Fakenham	1/9	1/4½	Matlock U.D.	1/10½	1/5½	Thames Haven	2/0	1/7
Billericay	1/9½	1/5	Falmouth	1/10½	1/5½	Melton Constable	1/8½	1/4½	Thetford	1/9½	1/5
Birchington	1/10	1/5½	Fareham	1/11	1/6½	Melton Mowbray	1/11	1/6½	Thorpe Bay	1/11½	1/6½
*Birkenhead	‡2/1	¶	Faversham	1/10	1/5½	Merthyr	2/0	1/7	Todmorden	2/0	1/7
Birmingham C.B.	†2/0	†1/7	Felixstowe	1/11	1/6½	Middlesbrough	2/0	1/7	Tonbridge	1/10½	1/5½
Bishop Auckland	2/0	1/7	Filey	1/10½	1/5½	Middleton	2/0	1/7	Torquay	1/11½	1/6½
Bishop's Stortford	1/11	1/6½	Fleetwood	2/0	1/7	Middlewich	1/11½	1/6½	Totnes	1/10	1/5½
Blackburn	2/0	1/7	Flint	2/0	1/7	Milford Haven	1/10½	1/5½	Trowbridge	1/9	1/4½
Blackpool	2/0	1/7	Folkestone	1/10	1/5½	Morecambe	2/0	1/7	Truro	1/9½	1/5
Blyth	2/0	1/7	Frinton-on-Sea	1/10	1/5½	Morley	2/0	1/7	Tunbridge Wells	1/10½	1/5½
Bognor Regis	1/10	1/5½	Frome	1/9	1/4½	Mundesley	1/9	1/4½	Uppingham (Salop)	1/11½	1/6½
Bolton	2/0	1/7	Gainsborough U.D.	1/11	1/6½	Nantwich	1/11½	1/6½	Uttoxeter U.D.	1/10½	1/5½
Bournemouth	1/11	1/6½	Gateshead	2/0	1/7	Nelson	2/0	1/7	Wakefield	2/0	1/7
Bracknell	1/10	1/5½	Gillingham (Kent)	1/11	1/6½	Newark-on-Trent	1/11½	1/6½	Walsall C.B.	2/0	1/7
Bradford	2/0	1/7	Glossop	2/0	1/7	Newbury	1/10	1/5½	Walsden	2/0	1/7
Bradford-on-Avon	1/9	1/4½	Gloucester	1/11½	1/6½	Newcastle-on-Tyne	2/0	1/7	Walton-on-Naze	1/10	1/5½
Braintree	1/10	1/5½	Godalming	1/10	1/5½	Newcastle-u.-Lyme	2/0	1/7	Ware	1/11½	1/6½
Brentwood	1/11½	1/6½	Goole	2/0	1/7	New Forest	1/10	1/5½	Warminster	1/9	1/4½
Bridgwater	1/10½	1/5½	Gosport	1/11½	1/6½	Newmarket	1/10	1/5½	Warrington	2/0	1/7
Bridlington	1/11½	1/6½	Grantham M.B.	1/11	1/6½	Newport, Mon.	2/0	1/7	Warwick M.B.	2/0	1/7
Brighouse	2/0	1/7	Gravesend	1/11½	1/6½	Newport Pagnell	1/10	1/5½	Wellington R.D.	1/11½	1/6½
Brighton	1/11	1/6½	Great Yarmouth	1/10	1/5½	Northampton C.B.	2/0	1/7	Welwyn	1/11	1/6½
Bristol	2/0	1/7	Grimsby	2/0	1/7	Norwich	2/0	1/7	Welwyn Gar. City	2/0	1/7
Broadstairs	1/10	1/5½	Guildford	1/10	1/5½	Nottingham	2/0	1/7	Wells (Norfolk)	1/8½	1/4½
Bromsgrove U.D.	1/11½	1/6½	Guilsborough	1/10½	1/5½	Nuneaton	2/0	1/7	West Bromwich C.B.	2/0	1/7
Buckley	2/0	1/7	Halifax	2/0	1/7	Oakham U.D.	1/10½	1/5½	Westcliff-on-Sea	1/11½	1/6½
Bungay	1/8	1/4	Hanley	2/0	1/7	Oldham	2/0	1/7	Weston-super-Mare	1/11	1/6½
Burnham-on-Crouch	1/8½	1/4½	Harpenden	1/11	1/6½	Ormskirk	2/0	1/7	Weybridge	1/11	1/6½
Burnley	2/0	1/7	Harrogate	2/0	1/7	Oxford	1/11½	1/6½	Weymouth	1/10	1/5½
Burslem	2/0	1/7	Hartlepools	2/0	1/7	Oxted	1/10½	1/5½	Whitby	1/11	1/6½
Burton-on-Trent C.B.	2/0	1/7	Harwich	1/10	1/5½	Paignton	1/11½	1/6½	Whitstable	1/10	1/5½
Bury	2/0	1/7	Haslemere	1/10	1/5½	Peterborough (Borough)	1/11½	1/6½	Widnes	2/0	1/7
Bury St. Edmunds	1/9½	1/5	Hastings	1/10	1/5½	Plymouth	2/0	1/7	Wigan	2/0	1/7
Buxton	1/11½	1/6½	Hatfield	1/11½	1/6½	Pontefract	2/0	1/7	Wigton	1/10½	1/5½
Byfleet	1/10½	1/5½	Haywards Heath	1/10	1/5½	Pontypridd	2/0	1/7	Willington	2/0	1/7
Cambridge	2/0	1/7	Hednesford	1/11½	1/6½	Port Talbot	2/0	1/7	Wilmslow	2/0	1/7
Canterbury	1/10	1/5½	Hemel Hempstead	1/11	1/6½	Portsmouth	1/11½	1/6½	Winchester	1/10½	1/5½
Cardiff	2/0	1/7	Henley-on-Thames	1/10	1/5½	Preston	2/0	1/7	Windermere	1/10½	1/5½
Carlisle	2/0	1/7	Herne Bay	1/10	1/5½	Pulborough	1/10	1/5½	Windsor	1/11	1/6½
Carnforth	2/0	1/7	Hertford	1/11½	1/6½	Ramsgate	1/10	1/5½	Wisbech	1/9½	1,5
Castleford	2/0	1/7	Heysham	2/0	1/7	Reading	1/11½	1/6½	Witham	1/10	1/5½
Caterham	2/0	1/7	Hitchin	1/11	1/6½	Redditch U.D.	1/11½	1/6½	Woking	1/10½	1/5½
Chard	1/9	1/4½	Hoddesdon	1/11½	1/6½	Redhill	1/10½	1/5½	Wokingham	1/10	1/5½
Chatham	1/11	1/6½	Holt (Norfolk)	1/8½	1/4½	Ripon	1/10½	1/5½	Wolverhampton C.B.	2/0	1/7
Chelmsford	1/11½	1/6½	Horley	1/10	1/5½	Rochdale	2/0	1/7	Woodbridge	1/9½	1/5
Cheltenham	1/11	1/6½	Horsham	1/10	1/5½	Rochester	1/11	1/6½	Worcester C.B.	1/11½	1/6½
Chepstow	1/11½	1/6½	Horwich	2/0	1/7	Rugby M.B.	2/0	1/7	Workington	1/10½	1/5½
Chertsey	1/11	1/6½	Huddersfield	2/0	1/7	St. Albans	1/11½	1/6½	Worksop	1/11½	1/6½
Chester	2/0	1/7	Hull	2/0	1/7	St. Helens	2/0	1/7	Worthing	1/10	1/5½
Chesterfield M.B.	2/0	1/7	Hunstanton	1/9	1/4½	St. Neots	1/9½	1/5	Wrexham	1/11½	1/6½
Chichester	1/10	1/5½	Huntingdon	1/9½	1/5	Saffron Walden	1/9	1/4½	Wroxham	1/9½	1/5
Chorley	2/0	1/7	Ilfracombe	1/10	1/5½	Salisbury City	1/9½	1/5	Wycombe	1/11	1/6½
Cirencester	1/9½	1/5	Ingatestone	1/10½	1/5½	Salisbury Plain	1/11	1/6½	Wymondham	1/9	1/4½
Clacton	1/10	1/5½	Ipswich	1/11½	1/6½	Sawbridgeworth	1/10½	1/5½	Yeovil	1/10½	1/5½
									York	2/0	1/7

* An application for an increase of rates is under discussion.

† Plus 2d. per working day. ‡ Plasterers 2/1½. ¶ Tradesmen's Labourers, 1/7½. Navvies and General Labourers, 1/6½.

§ Joiners, Plumbers, Bricklayers, Tilers and Masons receive 2/- per week or 4d. per day Tool Money.

NOTE.—Carpenters, Joiners and Plumbers in all Towns and Districts (other than Birkenhead and Liverpool) receive 2d. per day Tool Allowance.

For Building Trade Wages in Scotland, see page 401.

PRICES CURRENT OF MATERIALS*

NOTE.—These prices apply to large quantities of materials at works, at London stations, or site, in London area as stated. Prices for smaller quantities ex merchant's warehouse will of course be higher. Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry. The prices of soft woods are for cash on delivery.

BRICKS, &c.

	£ s. d.
First Hard Stocks	4 13 0
Second Hard Stocks	4 6 0
Mild Stocks	3 13 0
Washed Rough Stocks	3 7 0
Common Stocks	2 17 6

All loaded free into lorry at the works. The question of haulage is still very difficult and prices must be obtained from job to job. *In addition*, there will be the Levy under the Bricks (Charges) Order, 1942, of 3s. per 1,000.

2¼ in. Phorpres. A discount of 6d. 1,000 only monthly account.	King's Cross Station per 1,000 s. d.	To sites in W.C. District per 1,000 s. d.
Pressed	56 9	63 3
Keyed	58 9	65 3
Single Bullnose	76 9	83 3
Rustics	76 9	83 3
Whites	77 3	83 3

	£ s. d.
White Midhurst Best selected (delivered London site)	5 10 0
Best blue Pressed Staffs. (London Stns.)	11 12 0
Do. Bullnose (London Stns.)	12 2 0
Blue Wire Cuts (London Stns.)	10 9 6

Best Stourbridge Fire Brick (London Stns.) :—

£ s. d.	£ s. d.
2½ in. ..10 0 0	3 in. ..12 0 0

GLAZED BRICKS (London Stns.). Add 12½% to Prices.

Best White Ivory and Salt Glazed	D'ble Str'tch'rs 38 10 0 D'ble Headers .. 35 10 0
Stretcher 30 0 0	One side&twoends 39 10 0
Headers 29 10 0	Twosides&one end 40 10 0
Quoins, Bullnose and 4½in. Flats 36 10 0	Splays and Squints 38 0 0

Second Quality, £2 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours. Hard Glaze, £3 10s. extra over white.

ADD LEVY ON BRICKS. 3/- per 1,000 except Glazed Bricks.

PARTITION SLABS.

Delivered on site London Area.

PHORPRES " HOLLOW PARTITION BLOCKS.

	s. d.		s. d.
2" per yd. sup.	2 8	3" per yd. sup.	3 6
2½" " " ..	2 11	4" " " ..	3 10

CLINKER CONCRETE.

2" per yd. sup.	1 11	3" per yd. sup.	2 6
2½" " " ..	2 3	4" " " ..	3 6

CRANHAM TERRA COTTA.

Size 12 x 9 x 2" per yd. super	2 8
Size 12 x 9 x 2½" " "	2 11
Size 12 x 9 x 3" " "	3 6
Size 12 x 9 x 4" " "	3 10

HEMPSTEAD—KEYED TWO SIDES.

12" x 9" x 2"	2 8	12" x 9" x 3"	3 6
12" x 9" x 2½" ..	2 11	12" x 9" x 4"	3 10

Per yard super d/d. Free on site, London.

Plus 2d. for smooth one side, and 4d. for smooth both sides.

STONE.

	s. d.
BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	3 3½
BEER STONE—RANDOM BLOCK— Free on rail at Seaton Station per ft. cube	2 3
Delivered free on rail Nine Elms, S.R. "	3 1½
Selected approximate size one way, 1d. per cubic ft. extra, selected approximately three sizes or for special work, 3d. per cubic ft. extra.	
PORTLAND STONE— Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R. .... per ft. cube	4 7
Do. do. delivered on road waggons as above stations ..... per ft. cub.	4 7
White basebed, 3d. per ft. cube extra.	
NOTE.—1d. per ft. cube extra for every ft. over 20 ft. *average* and ¼d. beyond 30 ft.	
HOPTON-WOOD STONE— F.O.R. Quarries, Wirksworth, Derbyshire, Random blocks from 10ft. and over P.ft.cb.	13 2
Sawn two sides	26 11
Sawn three or four sides	31 11
YORK STONE, BLUE—*Robin Hood Quality* Delivered at any Goods Station, London.	
6 in. sawn two sides landings to sizes (under 30 ft. super) ..... per ft. super	5 6
6 in. rubbed two sides, ditto .. "	6 3
3 in. sawn two sides slabs (random sizes) ..... "	2 7
2 in. to 2½ in. sawn one side slabs (random sizes) (paving) .... "	1 8½
1½ in. to 2 in. ditto ..... "	1 4½
HARD YORK— Delivered at any Goods Station, London. Scrappled random blocks.....per ft. cube	6 10
6 in. sawn two sides landings to sizes (under 40 ft. super) .....per ft. super	5 7½
6 in. rubbed two sides, ditto .. "	6 9
4 in. sawn two sides slabs (random sizes) ..... "	3 5
3 in. ditto ditto ..... "	2 8
2 in. self-faced random flags .... per yd. super	8 9

CAST STONE.

Delivered in London area in full van loads, per ft. cube : Plain, 7s. 6d. Moulded, 8s. 6d. Small section cills and copings, 11s.

SAND.

Thames Ballast	11s. 6d. per yd.	delivered 2 miles radius Paddington
Pit Ballast	10s. 0d. " "	
Pit Sand	12s. 0d. " "	
Washed Sand	13s. 0d. " "	
¾ in. Shingle	10s. 6d. " "	
¾ in. Broken Brick	16s. 0d. " "	
Pan Breeze	10s. 0d. " "	

CEMENT.

Best British Portland Cement. Standard Specification, delivered London area.	£ s. d.
6 ton loads and upwards site ..... per ton	2 11 0
1 ton to 6 tons site	2 14 0
Alongside Vauxhall in 80 ton lots	2 8 6
" Ferrocrete " Rapid Hardening Cement—	
6 ton loads and upwards site	2 17 0
1 ton to 6 tons site	3 0 0
Alongside Vauxhall in 80 ton lots	2 14 6
" Aquacrete " Water Repellent, " Blue Circle " cement, 30s. per ton on ordinary " Blue Circle " prices.	
" Colorcrete " Nos. 1 and 2. Coloured rapid Hardening Portland Cement in 6 ton lots	4 11 0
" Colorcrete " not rapid hardening, according to colour, from £7 to £15 10s. per ton.	
" Snowcrete " White Portland Cement (in free paper bags) 11 5 0	
Under one ton .. .. .. per cwt.	0 13 2
" 417 " Cement (Ultra Rapid Hardening) Delivered Site London Area in 6 tons lots and upwards	3 11 0

Plus packages at current prices.

Super Cement (Waterproof), bags extra.... 4 1 0

NOTE.—Jute sacks charged at 35s. 6d. nett per ton (20 sacks) for quantities of or exceeding one ton. Less than one ton 1s. 9½d. nett each.

Credit 1s. 6d. nett each when returned in good condition within two weeks.

£ s. d.	£ s. d.
Roman Cement 8 10 0	Keene's Cement, White 7 0 0
Parian Cement 7 0 0	" " Pink 6 10 0

Cementone Colours for cement according to tints per cwt. from £3 5s. 0d.

SLATES.

First quality slates from Penrhyn or Portmadoc, carriage paid in full truck loads to London Rate Station.

Per 1,000 actual.	£ s. d.		£ s. d.
24 by 12	45 5 0	18 by 10	24 0 0
22 by 12	37 17 6	18 by 9	22 12 6
22 by 11	34 2 6	16 by 10	21 10 0
20 by 12	33 0 0	16 by 8	16 12 6
20 by 10	30 5 0		

BISON
FLOORS & ROOFS
as a means
to an easy mind
Have you ever thought of BISON as a means to an easy mind ? You don't have to worry about time and delivery—the BISON Floor keeps pace with the schedule. No bother with costs, for they are simple to erect. You can ignore the weather, forget about timber shuttering, and sit back secure in the knowledge that BISON is keeping the job up to schedule. It's just one of the reasons why architects specify BISON Precast Floors and Roofs.
BISON FLOORS
CONCRETE LIMITED

PLASTER.

	£ s. d.		£ s. d.
Coarse, Pink ..	4 2 6	Sirapite, Coarse	4 8 6
" White	4 10 0	" Finish	4 14 6
Pioneer	5 5 0		

Above prices for 4-ton loads and over London Area.

Best Ground Blue		Grey Stone Lime	3 1 0
Lias Lime	3 7 6	Chalk Lime	3 1 0
Granite Chippings	1 15 0	Hair per cwt.	3 15 0

NOTE.—Sacks are charged 1s. 9d. each, and credited 1s. 6d. if returned in good condition within three months, carriage paid.

Stourbridge Fireclay in paper bags, £2 12s. 6d. in 6-ton lots at railway depot.

TILES.

	£ s. d.
Delivered at London rate stations in full truck loads of not less than 6 tons	Per 1,000 f.o.r. London.
Best machine-made tiles from Broseley or Staffordshire district	£3 18 0
Ditto hand-made ditto	7 2 0
Ornamental ditto	7 8 6
Hip and valley tiles (Hand-made	14 6
(per dozen) (Machine-made.....	13 10

HARD WOOD.

1 INCH AND UP THICK.

Average price for prime quality	s. d.		Foot cube. £ s. d.
Dry English Wainscot Billets	16 0	to	0 18 0
Dry Slavonian Billet Wainscot ..	17 0	to	1 0 0
Dry Cuba Mahogany logs.....	21 0	to	1 4 0
Square-edged Honduras Mahogany			0 16 6
Log Cut Honduras Mahogany			0 17 6
American Figured Oak			0 13 0
American Plain Oak.....			0 12 6
Jap, Figured Oak			0 13 0
Jap, Plain Oak			0 12 6
Teak			0 15 6
American Whitewood			0 12 6
African Whitewood			0 8 0
African Mahogany			0 11 0
Australian Walnut			0 19 0
Australian Silky Oak			0 12 6
Best Scotch glue.....		per cwt.	5 0 0
Liquid glue.....		per gallon	1 2 0

SOFT WOOD.

MERCHANTABLE BRITISH COLUMBIAN PINE

	Minimum. £ s. d.	Maximum. £ s. d.
Scantlings in imported sizes 2 in. by 3 in. to 4 in. by 11 in.	47 0 0	58 0 0

PLANED BOARDS.

PRIME CLEAR BRITISH COLUMBIAN PINE.

	Per standard. £ s. d.
1 in. by 11 in. } 1 in. by 9 in. }	71 0 0

	Per square. s. d.
1 in. plain edge flooring	56 3
1¼ in. ditto	70 6
1 in. tongued and grooved	56 3
1¼ in. ditto	70 6

MATCHING

	Per square. s. d.
¾ in.	40 0
¾ in.	45 3
1 in.	59 0

PLUMBERS' BRASS WORK.

Delivered in London.

M.O.H.

S.D. BIBCOCKS CRUTCH HEAD, FOR IRON

½ in. ¾ in.
33/- 51/- per doz.

TOILET BIB COCKS FOR IRON.

½ in. ¾ in.
42/- 60/- per doz.

S.D. STOP COCKS FOR IRON.

½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
33/- 48/- 86/- 209/- 281/- 456/- per doz.

S.D.S. COCKS WITH TWO UNIONS FOR LEAD

½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
45/- 77/6 123/- 240/- 372/- 624/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
5/6 6/8 11/- 24/- 36/- 56/- per doz.

HEAVY CROYDON BALL VALVES.

½ in. ¾ in. 1 in. 1¼ in. 1½ in.
60/- 96/- 120/- 240/- 320/- per doz.

CAPS AND SCREWS.

1¼ in. 1½ in. 2 in. 3 in. 3½ in. 4 in.
11/9 15/6 21/6 37/9 54/- 59/6 per doz.

BRASS SLEEVES.

1¼ in. 2 in. 3 in. 3½ in. 4 in.
10/9 13/6 25/- 37/- 46/- per doz.

LEAD TRAPS WITH BRASS CLEANING SCREWS.

1¼×6 lbs. 1½×6 lbs. 2×7 lbs. 3×7 lbs.
Lead P. 26/- 34/- 55/- 92/- per doz.
Lead S. 34/- 41/- 67/- 115/- per doz.

SOLDER.—Plumbers', 1/6. Tinmen's, 1/11. Blow pipe, 2/3 per lb.

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information. Prices are subject to 2½ per cent. cash discount.

PRICES CURRENT OF MATERIALS—*(contd.)*

See Note at top of preceding page.

METALS.

	£ s. d.
JOISTS, GIRDERS, &c., to LONDON STATION PER TON—	
R.S. Joists, cut and fitted	£24 0 0
Plain Compound Girders	26 10 0
" " Stanchions	29 0 0
In Roof Work	35 0 0

NOTE.—These prices are for standard pieces and not special pieces of an awkward nature.

MILD STEEL ROUNDS.—To London Stations, per ton.

Diameter.	£ s. d.	Diameter.	£ s. d.
½ in.	23 5 0	¾ in.	21 15 0
⅞ in.	22 15 0	⅛ in. to 2⅞ in.	21 5 0
⅛ in.	22 5 0		

WROUGHT TUBES AND FITTINGS.

Deliveries from works.

Deliveries from London stock further 2½% gross.

	10/17 Tubes. ½"/6" %	Tubulars, and ½"/6" %	19/24" ¾"/2" %	Flanges. ¾"/2" %
Light weight	51½	—	47½	51 57½
Heavy weight	44	44	39½	41 49½
Galv. lightweight	40½	—	38½	39½ 48½
Galv. heavyweight	31	31	31	29½ 41

Tubes and tubulars sizes ⅛"/¼" inclusive, charged extra of 5% less gross.

Fittings. Figs. 25/34 5% less gross discount.

Terms.—Nett cash end of month following date of invoice. Carriage paid on lots of £10 nett value and over.

C.I. HALF-ROUND GUTTERS—London Works, per yd. in 6 ft. lengths. Prices ex Stop ends.

	Gutters.	Nozzles.	
3 in.	1/5½	1/2½	4½d.
3½ in.	1/7	1/4	4½d.
4 in.	1/7	1/6	6½d.
4½ in.	1/8½	1/8½	7½d.
5 in.	2/0½	2/0	9d.

O.C. GUTTERS.

3 in.	1/10½	1/7½	5d.
3½ in.	2/1½	1/7½	6½d.
4 in.	2/1½	1/8½	7½d.
4½ in.	2/2½	1/11½	8½d.
5 in.	2/8½	2/3	10½d.

RAIN WATER PIPES.

Per yd. in 6 lts.	Pipe.	Bends. Stock angles.	Branches.
2 in.	2/2½	1/5½	2/2
2½ in.	2/3½	1/8½	2/7½
3 in.	2/8½	2/1½	3/2
3½ in.	3/2½	2/6½	3/7½
4 in.	3/8½	3/0½	4/5

NETT PRICES.

Tonnage allowance—4-ton lots, 5 per cent. 2-ton lots, 2½ per cent.

L.C.C. COATED SOIL PIPES—London Prices, ex Stock.

Per yd. in 6 fts.	Pipe.	Bends.	Branches
2 in.	3/9½	2/7½	3/2
2½ in.	4/5	2/10½	3/11½
3 in.	4/9	3/2	4/8½
3½ in.	4/10½	3/11½	5/5½
4 in.	5/3½	4/5	6/3½

L.C.C. COATED DRAIN PIPE.

cwt. qr. lbs. in 9 fts.	per yard.	Bends.	Branches.
3 in. 0 3 14	5/10	6/11	11/–
4 in. 1 1 20	7/11	7/11	13/10
5 in. 1 2 22	10/1	14/2	21/5
6 in. 2 0 6	12/3	16/4	28/4

Gaskin, 75/- per cwt.

	Per ton basis in London. £ s. d.
IRON.—Staffordshire Crown, Merchant quality	18 7 6
IRON.—Staffordshire Marked Bars	19 7 6
Mild Steel Bars	19 15 0
Mild Steel Hoops	21 10 0
	Ex Merchant's Stock, per ton (two-ton lots).
Soft Steel Sheets, C.R. and C.A.—	
20 gauge	24 17 6
24 gauge	25 2 6
26 gauge	25 17 6
Galvanised Corrugated Sheets, 6 ft. to 9 ft.—	
20 gauge	27 0 0
24 gauge	27 10 0
26 gauge	28 15 0
Galvanised Flat Sheets, C.R. and C.A.—	
20 gauge	28 10 0
24 gauge	29 0 0
26 gauge	30 5 0
	Per ton £ s. d.
Cut Nails, 3 in. and up	28 10 0

ALL NETT.

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 2s. 4d. to 2s. 7d. per foot super.

PAINTS, &c.

	£ s. d.
Raw Linseed Oil (5 galls.) .. per gallon	0 6 3
Boiled Linseed Oil (5 galls.) .. "	0 6 7
Genuine Ground English White Lead, per cwt.	3 11 9
Genuine White Lead Paint, 14-lb. tins free, per cwt.	4 16 6
Genuine Red Lead "	2 18 6
Linseed Oil Putty (Kegs extra) .. "	1 3 9
Size, XD quality ftn.	0 4 9

Turpentine substitute can be obtained and prices vary according to quality from 3/8 gallon upwards.

BUILDING TRADE WAGES IN SCOTLAND

Following are grade rates authorised by the Scottish N.J.C. from May 10. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

Grade Classification	A	A1	A2	A3	B	B1
Craftsmen	2/0½	2/0	1/11½	1/11	1/10½	1/10
Labourers	1/7	1/6½	1/6½	1/6	1/5½	1/5½

Aberdeen	A	Dumfriesshire	A2	Inverness	*	Perthshire	A2
Ayrshire	A	Dundee	A	Inverurie	A1	Peterhead	A1
Banff	B	Dunoon	A	Kincardineshire	A2	Renfrewshire	A
Berwickshire	A2	East Fife	A	Kinross-shire	A	Rothesay	A
Bridge of Allan	A	East Lothian	A	Lanarkshire	A	Roxburghshire	A2
Broughty Ferry	A	Edinburgh	A	Midlothian	A	St. Andrews	A
Clackmannanshire	A	Fifeshire	A	Monifieth	A	Selkirkshire	A2
Doune	A	Forfarshire	A2	Moray and Nairn	B	Stewartry	A2
Dunblane	A	Glasgow	A	Newport	A	Stirlingshire	A
Dumbartonshire	A	Greenock	A	Peeblesshire	A2	Stornoway	A2
Dumfries	A1	Hamilton	A	Perth	A	Tayport	A
						West Lothian	A

*This town has its own rates : Masons, 1/9½; Carpenters, 1/9½; Slaters, 1/9½; Plumbers, 1/10; Plasterers, 1/10½ but 1/11 is paid owing to the scarcity at present ; Painters, 1/9½ and Labourers, 1/5.

The information given in this table is copyright. Rates of wages in England and Wales are given on page 399

VARNISHES, &c.

		Per gallon. £ s. d.
Oak Varnish	Outside	0 16 0
Fine do.	"	0 18 0
Fine Copal	"	1 0 0
Pale Copal	"	1 2 0
Pale Opal Carriage	"	1 6 0
Best do. do.	"	1 14 0
Floor Varnish	Inside	1 0 0
Fine Pale Paper	"	1 0 0
Fine Copal Cabinet	"	1 4 0
Fine Copal Flatting	"	1 2 0
Hard Drying Oak	"	1 0 0
Fine Hard Drying Oak	"	1 1 6
Fine Copal Varnish	"	1 2 6
Pale do.	"	1 14 0
Best do.	"	1 4 6
Best Japan Gold Size	"	1 14 6
Best Black Japan		0 12 0
Oak and Mahogany Stain (water)		0 14 0
Brunswick Black		0 9 6
Berlin Black		0 16 0
Knotting (patent)		0 17 0
French and Brush Polish		0 14 0
Liquid Dryers in Terebene		0 11 0

LEAD, &c.

(Delivered in London.)	Per ton. £ s. d.
LEAD.—Sheet, English, 4 lb. and up	38 0 0
Pipe in coils	38 10 0
Soil pipe	42 10 0
Compo pipe	47 10 0

NOTE.—Country delivery, 20/- per ton extra, lots under 3 cwt. 4/- per cwt. extra and over 3 cwt. and under 5 cwt., 2/6 per cwt. extra. Cut to sizes, 4/- per cwt. extra.

Old lead, ex London area, at Mills.....per ton } £18 0 0.

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THE SCOTTISH BUILDER

NEW BUILDINGS

GLYDEBANK. — Department of Health for Scotland have sanctioned the acquisition by T.C. of 65 acres of ground at Livingstone-st., as housing site. Steps are also being taken to acquire ground for housing north of Second-av.

GLASGOW.—Plans prepared for alterations and additions for the Church of Scotland, 121, George-st., Edinburgh, at St. Andrew's-dr., for which the architect is James C. Robertson, 4, Weymss-pl., Edinburgh.

Institute of Welding.

A series of meetings designed to give opportunities for the informal exchange of practical information on welding has been arranged by the Institute of Welding. The programme will consist of a short film, followed by general discussion, in which questions will be invited. All meetings begin at 6 p.m. The meetings are: November 17, Croydon Polytechnic; November 24, East Ham Technical College; December 1, South-West Essex Technical College; December 9, Wimbledon Technical College; and December 15, Acton Technical College.

GLASS.

SHEET GLASS, ORDINARY GLAZING QUALITY CUT SIZES.

	Per ft. super. d.
18 oz.	3½
24 oz. Clear or "R" quality	4½
26 oz.	5½
32 oz.	7½

ENGLISH ROLLED PLATE AND FIGURED CATHEDRAL, ETC., IN CUT SIZES.

Over 500 ft. super of all kinds.	Per ft.
Rolled plate, ¼ in.	5½d.
Rough cast double rolled, ⅛ in.	6½d.
Rough cast double rolled, ¼ in.	6½d.
Figured rolled, and Cathedral, white	6½d.
Figured rolled and Cathedral, tinted	9½d.
Rolled Sheet	6d.
Reeded, Broad Reeded, Cross Reeded and Chevron Reeded, ¼ in. thick	10½d.

Rolled plate is the same price as rough cast double rolled.

	Per ft. s. d.
Wire Rolled, ¼ in. thick	0 9½
Wire Cast, ¼ in. thick	0 9½
Georgian Wired Cast	0 10
"Calorex" Sheet, 21 oz.	2 6
" " 32 oz.	4 0
" Cast, ⅛ in. thick	0 9½
" " ⅛ in. thick	1 0
" " ¼ in. thick	1 2
Non Actinic Glass, ¼ in. thick	0 9½
" " " ⅛ in. thick	1 0
" " " ¼ in. thick	1 2

"VITA" GLASS.

	Per ft. s. d.
"Vita" Plate Glass, about ⅛ in. thick— To 7 ft. super.	5 0
Over 7 ft. super	7 6
"Vita" Sheet Glass, about 18/20 oz.	2 0
Cathedral "Vita" Glass : ¼ in. thickness	2 0
⅛ in. "	3 0
⅛ in. Georgian Wired "Vita" Glass	3 6

GLASS BRICKS.

	s. d.	
P.B. 1—8 in. × 4½ in. × 3½ in.	2 9	each nett
P.B. 2—5½ in. × 5½ in. × 3½ in.	2 6	"
P.B. 3—7½ in. × 7½ in. × 3½ in.	3 6	"
P.B. 32—7½ in. × 7½ in. × 3½ in.	3 6	"
Radiused Corner Bricks to match up with—		
P.B. 2	4 6	each nett
P.B. 3	6 0	"
P.B. 32	6 0	"

BUILDING COSTS

B.I.N.C. SURVEY.

In an article on Building Costs in the current *Building Industries Survey** the situation is reviewed. After stating that the cost of the national holidays scheme represented the only change in the B.I.N.C. wages index from October, 1942, to March, 1943, the article continues :—

There are, however, several factors influencing building costs the effect of which remains largely unmeasurable : these include (*a*) the employment of young male labourers and women operatives, (*b*) the older age structure of the industry with the recruitment of an increasing proportion of the younger adults into other branches of national service, (*c*) the bonuses payable under the Essential Work Order, (*d*) the possible need for additional costing staffs to administer the new systems of payment introduced under the Essential Work Order. It is perhaps in respect of the last two items that objective inquiry is most urgently needed, and it is to be hoped that the newly appointed Building Costs Research Officer of the Ministry of Works will give his attention to the incidence on costs of these factors with a view to ascertaining what reduction from the present level of costs can be expected by the disappearance of these conditions in peace-time. The piece-rate system of payment was introduced against the view of a very considerable part of the industry; nor was any evidence produced at that time or since as to whether there was any economic justification for such a system of payment in the industry.

The article proceeds to add : There can be no doubt that the B.I.N.C. index (which is based on the two main items in costs, duly weighted) represents reasonably accurately the general trend in building costs. It is understood that the statement of the Minister of Works in the House of Lords that the cost of building houses had increased by 105 per cent. over the pre-war cost was based on the abnormal conditions affecting the proposed building of 3,000 agricultural labourers' cottages. It will thus be clear that this figure does not represent the general trend in building costs, and that it certainly should not be used as the basis for judging the need for changes in post-war building technique. In so far as costs have increased as a result of abnormal war-time conditions, a corresponding reduction after the war may be expected, while in so far as increases have been due to higher wage expenditure, the maintenance of these higher levels should provide a valuable stimulus to post-war economic recovery and development.

Index of Building Costs.
(1930 = 100.)

Month.	Wages.	Materials.	Total.
1939			
Sept. ...	102.9	107.3	105.5
1942			
April ...	124.9	143.3	135.9
May ...	124.9	143.3	135.9
June ...	124.9	143.6	136.1
July ...	124.9	144.7	136.8
Aug. ...	124.9	146.1	137.6
Sept. ...	124.9	147.3	138.3
Oct. ...	124.9	147.5	138.5
Nov. ...	124.9	147.6	138.5
Dec. ...	124.9	147.7	138.6
1943			
Jan. ...	124.9	147.9	138.7
Feb. ...	127.3*	147.9	139.7
March ...	127.3*	148.0	139.7

* Including allowance for Holidays with Pay Credits.

* Published by B.I.N.C., from 110, Bickenhall-mansions, London W.1.

OFFICIAL NOTIFICATIONS

Lease-Lend Hand Tools.

The Ministry of Supply announces that tool dealers established prior to August, 1939, who wish to apply for registration as merchants for the distribution of Lease-Lend hand tools under the Control of Hand Tools (No. 1) Order, 1942, should state the value of the hand tool stocks normally held in their trading premises, in addition to the information already requested. Applications should be made to the Director of Hand Tools (H.T.2a), Ministry of Supply, "Woodthorne," Wergs-road, Tettenhall, Staffs.

Appeal for Foreign Reference Books.

Individuals or organisations who possess European reference books—guides, maps, directories, catalogues and technical dictionaries—can help to foil enemy secrecy measures by giving or lending such books to the nation. They should be sent to Room 629, Ministry of Economic Warfare, Lansdowne House, Berkeley-square, London, W.1.

Kilndrying Timber: Control Advice.

With a view to promoting maximum efficiency in kilndrying, arrangements have been made between the Forest Products Research Laboratory, Princes Risborough, and the Timber Control for a qualified specialist officer of the laboratory to visit owners of timber-drying kilns and to advise them and their operators. The visits will be without charge to the kiln owner, and it is hoped that full use will be made of this service. Requests for such visits should be addressed to the Ministry of Supply, Timber Control Department, Branch 111/6, Clifton Down Hotel, Bristol, 8.

Commodity Insurance Scheme.

The Board of Trade have, with the approval of the Treasury, decided that in respect of the period beginning December 3, 1943, and ending March 2, 1944, the rate of premium payable under any policy under the Commodity Insurance Scheme shall be at the rate of 5s. per cent. for three months (or 1s. 8d. per cent. per month). The new rate is a reduction of one-third on the rate for the current period.

Iron and Steel Control.

The Minister of Supply has made the Control of Iron and Steel (No. 32) Order, 1943, which came into force on November 3. This Order revokes and remakes in consolidation form the Control of Iron and Steel (Nos. 15-20, 22, 23, 26, 28 and 31) Orders, 1941-3. Among the new provisions are (1) Extension of control to Noibium and Tantalum Ores and all chemical compounds of Molybdenum, Tungsten or Vanadium (exclusive of catalysts or pigments); (2) That stockholding merchants are permitted to prepare material supplied against an authorisation under the Distribution Scheme to the extent covered by that authorisation. In other cases stockholders may perform simple operations such as cutting and holing; (3) where a re-sale is made at the request of the Minister of Supply involving additional transport costs, he may authorise an addition to the maximum controlled price; and (4) the purchase is permitted without authority of up to two rolls, not exceeding £3 in value, of used wire netting in any calendar month. The Order also authorises a number of price changes. Copies of the Order may be obtained from H.M. Stationery Office, York House, Kingsway, W.C.2, or through any bookseller, price 4d. (S.R. & O. 1943, No. 1,530).

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23, Lawrence Lane, Cheapside, London, E.C.2

FUTURE CONSTRUCTION

The Editor welcomes authentic information for this section from architects, surveyors or contractors. Items should reach 4, Catherine-street, Aldwych, W.C.2, not later than Tuesday morning.

CONTRACTS OPEN

For some contracts still open, but not included in this list, see previous issues. Those with an asterisk are advertised in this number. The dates at the heads of paragraphs are those for the submission of tenders; a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained.

BUILDING

NOVEMBER 15.

Thurrock U.D.C.—Strengthening of 3 trench-type shelters at Infectious Diseases hospital. G. F. Andrassy, M.Inst.M.&Cy.E., E. and S., Council Offices, Palmer's-ave., Grays, Essex. Dep. £2 2s.

NOVEMBER 16.

Mallow.—Alterations and extensions to Convent National Schools. J. R. Boyd Barrett, 61, South Wall, Cork. Dep. £5 5s.

Saltburn and Marske-by-the-Sea U.D.C.—Erection of two-bay brick-built garage. T. Grant. M.Inst.M.&Cy.E., E. and S., Council Offices.

NOVEMBER 18.

Clogher, Cookstown, Dungannon and Magherafelt Civil Defence Committee.—Erection of gas cleansing station. Civil Defence Headquarters, 6, James-st., Cookstown. Dep. £1 1s.

Dublin Commissioners of Public Works.—Erection of apprentice-training workshop. G. P. Fagan, Secretary, Office of Public Works, Dublin. Dep. £1.

*† **Gloucester T.C.**—Construction of burns and plastic surgery unit at City General hospital. A. Morgan (L.), City Architect, Suffolk House, Greyfriars, Gloucester. Dep. £3 3s. Tenders by December 7.

NOVEMBER 19.

Coventry T.C.—Erection of brick blast walls at No. 1 first-aid post. D. E. E. Gibson, City A., 1a, Warwick-row. Dep. £2 2s.

NOVEMBER 22.

Montgomeryshire E.C.—Structural alterations at Churchstoke C.E. school for school kitchen. T. G. Davies, D. of E., County Offices, Newtown. Dep. £2 2s.

Wick T.C.—Work in various trades required in erection of 14 blocks containing 40 houses of three, four and five apartments at Ackergill-st. Burgh S., Wick. Dep. £2 2s.

NOVEMBER 23

Knaresborough U.D.C. — Rebuilding of bungalow at Frogmire housing estate. G. H. Davis, S., Council Offices. Dep. £1.

DECEMBER 6.

Richmond (Surrey) T.C.—For making good damage to 2 houses. B.E., Hotham House, Heron Court, Richmond. Dep. £1 1s.

NO DATE.

Land Settlement Association, Ltd.—Erection of six-roomed detached house at Denham. F. C. Levitt, 1, Market-sq., Biggleswade, Beds. Dep. £1 1s.

PAINTING, ELECTRIC LIGHTING, HEATING, ETC.

NOVEMBER 15.

Rochdale T.C.—Installation of electric light and power at Middlewood Remand Homes, Wardle. W. G. Coates, E. and Manager, Electricity Dept., Electric House, Smith-st. Dep. £1 1s.

NOVEMBER 18.

Southport T.C.—Painting and decorating at 3 Grosvenor-rd., Birkdale. B.E. Dep. £1 1s.

NOVEMBER 23.

Huddersfield T.C.—Internal decorations to front and back lodges at Mill Hill Isolation Hospital. B.E. and S., High-st. bldgs., Huddersfield.

NOVEMBER 25.

West Riding C.C.—Internal renovation at Grammar School, Goole. E. L. Harrap, Education Offices, Goole.

ROAD, SEWERAGE AND WATER WORKS

NOVEMBER 29.

Alfreton U.D.C.—Relaying length of 9-in. outfall sewer. H. Taylor, M.Inst.C.E., Consulting E., Regal-chbrs., Cavendish-st., Chesterfield. Dep. £2 2s.

PUBLIC APPOINTMENTS

NOVEMBER 15.

Dover T.C.—Borough Engineer, Surveyor and Water Engineer. £800-£50-£1,000, plus £28 bonus and emoluments. T.C., Brook House.

NOVEMBER 22.

***Cheshire E.C.**—Full-time Teacher of Building Subjects for Day and Evening Classes. Forms of application from F. F. Potter, D. of E., County Education Offices, City-rd., Chester.

NOVEMBER 25.

***Oxford T.C.** — Temporary Architectural Assistant. £350-£400, plus £45 10s. bonus. J. C. Riddell, B.Sc., A.M.Inst.C.E., Surveyor, Town Hall.

NOVEMBER 27.

***East Ham E.C.**—Full-time Instructor in Plumbing at School of Building. Application form from A. A. Garrard, Secretary for Education, Education Office, Town Hall Annexe, Barking-rd., East Ham, E.6.

NOVEMBER 30.

Leeds E.C.—Temporary Lecturer in Architecture at School of Architecture, Leeds College of Art. Forms of application from Director of Education, Education Offices, Leeds, 1. (Stamped and addressed envelope required.)

Nottingham T.C.—Deputy City Engineer. £800-£1,000. J. E. Richards, T.C., Guildhall.

DECEMBER 1.

Cumberland C.C.—Two Temporary Architectural Assistants. Forms of application from County Architect, 4, Alfred-st. North, Carlisle.

DECEMBER 15.

***Brighton Technical College.** — Full-time Teacher for Plumbing Trade Classes, and to assist in work of General Building Course. Forms of application from F. Herbert Toyne, 54, Old Steine, Brighton, 1.

GENERAL BUILDING WORK

Ashton-in-Makerfield.—U.D.C. instructed S. to proceed with amended plans for erection of public baths.

Bingley.—U.D.C. propose day nursery.

Blackpool.—T.C. propose to carry out extensions to Myerscough Hall remand home, at £1,110.

Corby.—Northants E.C. propose additions to Monotechnic college, at £1,300.

Coventry.—Board of Management of Coventry and Warwickshire Hospital, Stoney Stanton-rd., propose reconstruction of Alfred Herbert and Wyley Wards, at £1,700.—Social Welfare Committee propose erection of six additional homes for aged persons.

Ealing.—Laboratory to be erected to plans by Dodge & Reid, 72, High-st,, Brentford.

Halifax.—E. Illingworth & Co. (Bradford), Ltd., waste merchants, propose additions.

Hampstead.—B.C. to establish day nursery at Berridge House, at £1,522 (subject to M.H. approval).

Kenilworth.—Special Constable's social club propose erection of recreation hall.

Kidderminster.—T.C. propose erection of crematorium.

Leeds.—Y.M.C.A. Services Hospitality Committee propose conversion of premises into Allied Nations Club.

Leeds.—P.H.C. propose prefabricated building for day nursery at The Circus, Cross Gates. —E.C. propose preparation of plans for additional schools.

Leicester.—E.C. propose erection of 10 young people's colleges.

Lytham St. Annes.—T.C. propose crematorium at Park cemetery.

Manchester.—Housing Committee propose erection of experimental houses.—T.C. approved: Conversion of houses into six flats. Plans by A. R. Walsingham, 50, High Grove-la., Cheadle, Ches.

Middlesbrough.—Plans under consideration for rebuilding and modernisation of Missions to Seamen premises.

Middleton.—T.C. propose garage accommodation, at £217.

Notts.—E.C. approved plans for extension at Beeston Rylands school, at £6,200.

Northumberland.—E.C. to proceed with acquisition of sites at Bedlington, Stannington and Lynemouth, for schools.

Preston.—Institute and Homes for the Blind, Fulwood, propose alterations and additions.

Salford.—T.C. approved alterations to shops, Cromwell-rd., Pendleton, for H. Bescoby & Co., clothiers.—Watch Committee to equip and establish central records office, at £200.—E.C. to erect building for extensions to St. Andrew's school.

Scarborough.—Jones & Rickaby, 102, Westborough, Scarborough, prepared plans for alterations for Woodlands Dairy, Ltd.

Southampton.—Plans submitted to T.C.: By W. H. Saunders & Son, on behalf of Liners' Laundry, Ltd., alterations and additions (amended); by G. S. Hallum & Sons, for Carey & Lambert, cycle shed (temporary).

Stoke-on-Trent.—Board of Governors of St. Dominic's High school for Girls propose scheme for improvements and alterations.

Sunderland.—Plans approved for lavatory accommodation at garage. Architects, Matkin & Hawkins, Barclays Bank-chbrs., Sunderland.

Tettenhall.—Board of Governors of Tettenhall College acquired "Tettenhall Towers," Henwood-rd., for adaptation as extensions to college.

Workington.—T.C. approved alterations to "Curwen Arms" hotel, Ramsay Brow, for Cleator Moor Brewing Co., Whitehaven.

BRITISH RESTAURANTS AND CANTEENS

Boston.—Holland C.C. propose dining centre at Boston Grammar school.

Denton.—Lancashire E.C. propose central kitchen at schools.

Ealing.—The Ministry of Works, Abell House, Westminster, S.W.1, submitted lay-out plans for central kitchen at Oldfield-la., for B. of E.

Hebburn-on-Tyne.—E.C. to apply for prefabricated hut for use as dining-room at R.C. school.

Lytham St. Annes.—E.C. to prepare plans and estimates for provision of school feeding and cooking depots. Plans by G. W. Lawson, B.S.

Middleton.—T.C. propose school feeding centre at St. Thomas' Mission Church.—Lancashire E.C. propose prefabricated building for dining-hall at Middleton Grammar school.

Northants.—E.C. to prepare plans and estimates for provision of school meals. Plans by J. Perkins (L.), County Architect, County Hall, Northampton.

Northumberland.—E.C. to erect canteens at more than 50 schools. Bedlington Colliery school to be established as central kitchen. Prefabricated hut to be used as central kitchen at Wooler. Plans by County Architect, County Hall, Newcastle-on-Tyne.

Nuneaton.—E.C. received approval from B.E. for central kitchen and dining-hall at Stockingford school.

Oldham.—T.C. propose extensions to Churchill B.R. at Wellington-st.

Rowley Regis.—E.C. propose school kitchen at Beaches-rd., Blackheath.

Present Day Problem

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23 OATLANDS DRIVE, WEYBRIDGE

Sedgefield.—R.D.C. to build B.R. Plans by J. Tarrant, S.

Sunderland.—E.C. approved erection of school meals depots at 10 sites. Extensions to be made to Bede school kitchen. Scheme for adapting Burlington-bldgs., as school meals depot, at £3,346, approved.

Turnby.—Leicestershire E.C. propose erection of a school canteen at Turnby, at £1,200.

Tynemouth. — T.C. to provide canteens at schools. —Plans by D. H. O'Herlihy, B.S.

Wigan.—E.C. propose eight prefabricated buildings as dining centres for school meals. Plans by L. Lyons, B.E.

A.R.P. SCHEMES

LONDON.

Ealing.—T.C. accepted tender of Percy Bilton, Ltd., at £314, for erection of surface shelter at St. Mark's school.

West Ham.—B.C. accepted tender of W. J. Jerram, Ltd., at £837, for erection of surface shelters at three schools.

PROVINCIAL.

Gateshead.—T.C. propose public shelter near Shipcote school.

Jarrow.—T.C. to strengthen shelters at Valley View and Belsfield schools. Plans by B.E.

Kidderminster.—T.C. approved sites for erection of six additional static water tanks, for N.F.S.

Newcastle-on-Tyne.—E.C. placed contract with E. Jeffcock (Contractors), Ltd., Walbottle-rd., Newcastle-on-Tyne, for erection of shelters at Christ Church C.E. and St. Aloysius schools, for E.C.

Salford.—T.C. propose main cleansing and disinfecting station at Ladywell Hospital, Eccles New-road, Weaste.

Saltburn (Yorkshire).—N.F.S. to erect garage to plans by T. Grant, S.

Southampton.—T.C. accepted tender of R. H. & A. W. J. Hinton. at £457, for erection of three surface shelters.

TENDERS

Tenders for A.R.P. work will be found under "A.R.P. Schemes."

* Denotes *accepted*.
† Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modification*.
¶ Denotes *accepted by H.M. Government departments*.

Birmingham.—For work at schools, for E.C.: Arden-rd. school for reconditioning premises, and canteen work, Audley-rd. school: *Maddocks & Walford, Gravelly Hill, Birmingham, school, £206; and for improvements to canteen at Saltley Grammar school; *J. T. Harris, Ltd., £854; for erection of hut as kitchen at Severn-st. school: *P. W. Cox, Ltd., Handsworth, £885; for providing canteen at Stechford school: *J. R. Deacon, Ltd., Lichfield, £548.

Colborne.—Erection of prefabricated building for Service of Youth, Lancashire E.C. L. Evans, County Architect, County-bldgs., Fishergate Hill, Preston: *G. Moss & Sons, Ltd., Back St. Helens-rd., Leigh, £700.

Greenock.—Erection of steam laundry. W. J. B. Wright & Kirkwood, Carlton House, 26, Blythswood-sq., Glasgow, architects: *W. H. Kirkwood, Ltd., Greenock.

¶London (Air Ministry).—List of new contracts to value of £500 or over for week ended November 6.

Heating work: Jeffrey & Co., Ltd., London, S.E.1; G. N. Haden & Sons, Ltd., London, W.C.1; Rosser and Russell, Ltd., London, W.1; Brightside Foundry and Eng. Co., Ltd., Birmingham.

General maintenance work: T. Gill & Son, Norwich; Hadsphaltic Construction Co., Ltd., Wellington, Salop; Francis Jackson Developments, Ltd., Northwood, Middx.; A. N. Coles (Contractors), Ltd., Plymouth.

Supply and erection of structural steelwork: Tees Side Bridge and Engineering Co., Ltd., Middlesbrough; Octavius Atkinson, Ltd., Harrogate; William Bain & Co., Ltd., London, S.W.15; Cleveland Bridge and Eng. Co., Ltd., Darlington; Dorman Long & Co., Ltd., Middlesbrough; P. and W. McLellan, Ltd., Glasgow; Francis Morton & Co., Liverpool, 19; Motherwell Bridge and Eng. Co., Ltd., Motherwell; Robert Watson & Co. (Constructional Engineers), Ltd., Bolton, Lancs.

Water supply works: Duke & Ockenden, Ltd., Littlehampton, Sussex.

Installation work: Simmons & Hawker, London, S.W.18.

Constructional work: Riley & Neate, Ltd., Winchester.

¶London (Ministry of Works).—Contracts placed by M.O.W. during week ending November 4:—

Dorsetshire: Building work, W. Fanner & Sons, Ltd., Compton Abbas, Shaftesbury, Dorset.

Glamorgan: Building work, L. G. Mills, 75, Ferry-rd., Cardiff.

Lancs: Building work, T. Croft & Sons, Holme Slack Works, Blackpool-rd., Preston;

Henry Boot & Sons, Ltd., Church-rd., Litherland, Lancs.

Suffolk: Building work, Cubitt & Gotts, Ltd., Westerfield, Ipswich.

Wilts: Building work, W. G. Northcott & Co., Ltd., 4a, The Canal, Salisbury.

Yorks: Building work, Haywood & Peirson, 28, Bennett-la., Dewsbury; C. T. Boyd, Ltd., 15, Emmerson-st., Middlesbrough.

¶**London (War Dept.).**—Works contracts placed by War Department for week ended October 30:—

Cumberland: Heating work, Robert Heyworth & Co., Manchester.

Lancs: Miscellaneous work, James Tomkinson & Co., Ltd., Liverpool; hutting (erection) and miscellaneous work, John Tinline, Ltd., Bury; miscellaneous work, James Berry, Ltd., Heywood, Lancs; Wm. Thorpe & Sons, Ltd., Manchester.

Wilts: Hutting (erection) and miscellaneous work, F. Rendell & Sons, Ltd., Devizes.

Somerset: Hutting (erection), Roberts Bros. (Contractors), Ltd., Bridgwater.

London, W.1: Miscellaneous work, Mattock & Parsons, Ltd., London, W.C.1.

Kent: Miscellaneous work, H. Goodsell, Maidstone.

Cos. Antrim and Derry: Miscellaneous work, R. McConnell, Dungannon, Co. Tyrone.

Co. Antrim: Miscellaneous work, Wm. Logan & Sons, Belfast.

Rochdale.—(1) Reconstruction of roof over workshops; (2) Construction of latrines at cleansing dept., Entwisle-rd., for C.B. S. H. Morgan, M.Inst.C.E., B.S.: (1) *J. Hobson & Sons, Ltd., Belfield-rd., Rochdale; (2) *R. Blincoe, Petrie Works, Whitehall-st., Rochdale.

Rowley Regis.—Erection of school canteen kitchens at (a) Wright's-la.; (b) Old Hill, Macefield; (c) Knowle schools; for E.C. Pritchard, Godwin & Clist (FF.), Bank-bldgs., Kidderminster, architects; (a) *The Midland Building Trust, 188, Lodge-rd., Birmingham 18, £494; (b) *W. T. Harmon, South-av., Stourbridge, £325; (c) *K. E. Millard, New Wolverhampton-rd., Langley, Birmingham, £405.

Spilsby.—Erection of houses in various parishes, for R.D.C. W. Bailey, S., Council Offices: *E. E. Reed & Co. (Builders), Ltd., School-la., Farnham Common, Bucks, £16,426 9s. 4d.

Upholland.—Erection of prefabricated building as extensions to Grammar school, for E.C. L. Evans, County Architect, County-bldgs., Fishergate Hill, Preston: *Martlew Bros., Cross-la., Billinge Higher End, Orrell, nr. Wigan, £650.

West Ham.—Reconditioning of Hilda-rd. Infants' school, for E.C.: *J. & R. Rooff, Ltd., £525.

West Ham.—Erection of B.R. at Woodgrange-rd., for B.C.: *H. C. Horswill, Ltd., £960 (subject to M.F. approval).

Architects' and Surveyors' Approved Society.

The annual report of the chairman of this society (Mr. Herbert Shepherd, F.R.I.B.A.) for 1942, has just been issued. We note that the accounts show that £2,076 was expended in benefits during 1942, as compared with £1,577 in 1941, exclusive of additional benefits. The wartime address of the Society is 6, Nightingale-road, Rickmansworth, Herts.

College of Estate Management.

The College of Estate Management have leased part of the Chartered Surveyors' Institution's premises at 11, Great George-street, S.W.1, and whole-day classes began in September.

Classes are being held as follows:—

Monday — a.m., Draughtsmanship; p.m., Building Construction.

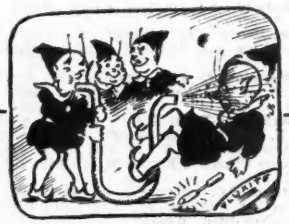
Tuesday—a.m., Law of Property; p.m., Economics.

Wednesday—a.m., Book-keeping; p.m., Central and Local Government.

Thursday—a.m., Law of Contract; p.m., Surveying and Levelling.

Friday—a.m., Building Construction; p.m., Mensuration and Trigonometry.

The Principal of the College will be at 11, Great George-street for the purposes of interview. All inquiries by post or telephone, however, should continue to be made to the Secretary of the College at Rickmansworth, Herts. (Tel.: Rickmansworth 3356.)



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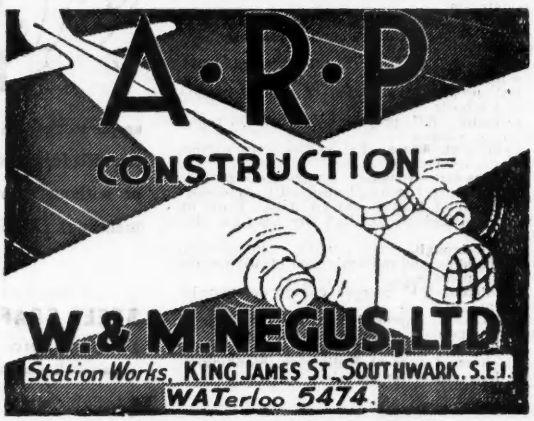
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